TRANSGENOMIC INC
Form 10-K
April 15, 2015

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

FORM 10-K
(Mark One)

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

For the fiscal year ended December 31, 2014
OR

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

For the transition period from to
Commission File Number 000-30975

TRANSGENOMIC, INC.
(Exact Name of Registrant as Specified in its Charter)

Delaware	91-1789357
(State or Other Jurisdiction of Incorporation or Organization)	(I.R.S. Employer Identification Number)
12325 Emmet Street Omaha, NE	68164
(Address of Principal Executive Offices)	(Zip Code)

(402) 452-5400
(Registrant's Telephone Number, Including Area Code)

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

Title of Each Class	Name of Each Exchange On Which Registered
Common Stock, par value $0.01 per share	The NASDAQ Capital Market

Securities registered pursuant to Section 12(g) of the Act:
None
(Title of Class)

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

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

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 whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).
Yes X No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form10-K ý

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

Large Accelerated Filer ¨ Accelerated Filer ¨
Non-Accelerated Filer ¨ Smaller Reporting Company ý
(Do not check if a smaller reporting company)

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act).
Yes No X
The aggregate market value of the voting and non-voting common equity held by non-affiliates of the registrant based on the last reported closing price per share of Common Stock as reported on the NASDAQ Capital Market on the last business day of the registrant’s most recently completed second quarter was approximately $24.6 million.
At March 31, 2015, the registrant had 11,857,078 shares of common stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant’s Definitive Proxy Statement for its 2015 Annual Stockholders’ Meeting are incorporated by reference into Part III of this Annual Report on Form 10-K, to be filed within 120 days of the registrant’s fiscal year ended December 31, 2014.

TRANSGENOMIC, INC.
Index to Form 10-K for the Fiscal Year Ended December 31, 2014

This Annual Report on Form 10-K references the following registered trademarks which are the property of Transgenomic, Inc.: Transgenomic, WAVE, SURVEYOR, FAMILION and ScoliScore. The following trademarks are the property of Transgenomic, Inc.: Advancing Personalized Medicine, the helix logo, ProtocolWriter and Navigator. This report may also refer to trade names and trademarks of other organizations.

PART I

FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K (this "Annual Report"), including Management's Discussion & Analysis of Financial Condition and Results of Operations, contains forward-looking statements. These statements are based on management's current views, assumptions or beliefs of future events and financial performance and are subject to uncertainty and changes in circumstances. Readers of this report should understand that these statements are not guarantees of performance or results. Many factors could affect our actual financial results and cause them to vary materially from the expectations contained in the forward-looking statements. These factors include, among other things: our expected revenue, income (loss), receivables, operating expenses, supplier pricing, availability and prices of raw materials, Medicare/Medicaid/Insurance reimbursements, product pricing, foreign currency exchange rates, sources of funding operations and acquisitions, our ability to raise funds, sufficiency of available liquidity, future interest costs, future economic circumstances, business strategy, industry conditions and key trends, our ability to execute our operating plans, the success of our cost savings initiatives, competitive environment and related market conditions, expected financial and other benefits from our organizational restructuring activities, actions of governments and regulatory factors affecting our business and other risks as described in our reports filed with the Securities and Exchange Commission (the "SEC"). In some cases these statements are identifiable through the use of words such as "anticipate," "believe," "estimate," "expect," "intend," "plan," "project," "target," "can," "could," "may," "shou the negative of such terms and other similar expressions.

You are cautioned not to place undue reliance on these forward-looking statements. The forward-looking statements we make are not guarantees of future performance and are subject to various assumptions, risks and other factors that could cause actual results to differ materially from those suggested by these forward-looking statements. Actual results may differ materially from those suggested by these forward-looking statements for a number of reasons, including those described in Item 1A, "Risk Factors," and other factors identified by cautionary language used elsewhere in this Annual Report.

We expressly disclaim any obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

Reverse Stock Split

On January 15, 2014, our Board of Directors approved a reverse split of our common stock, par value $0.01, at a ratio of one-for-twelve. This reverse stock split became effective on January 27, 2014 and, unless otherwise indicated, all share amounts, per share data, share prices, exercise prices and conversion rates set forth in this Annual Report have, where applicable, been adjusted retroactively to reflect this reverse stock split.

The following discussion should be read together with our financial statements and related notes contained in this Annual Report. Results for the year ended December 31, 2014 are not necessarily indicative of results that may be attained in the future.

Item 1. Our Business

Transgenomic, Inc. ("we", "us", "our", the "Company" or "Transgenomic") is a global biotechnology company advancing personalized medicine for the detection and treatment of cancer and inherited diseases through its proprietary molecular technologies and world-class clinical and research services. A key goal is to bring our Multiplexed ICE COLD-PCR ("MX-ICP") product to the clinical market rapidly through strategic licensing agreements, enabling the use of blood and other bodily fluids for more effective and patient-friendly diagnosis, monitoring and treatment of cancer.

MX-ICP is a simple, proprietary chemistry that amplifies the ability to detect genetic mutations by 100 - 400 fold. This chemistry has been validated internally on all currently available sequencing platforms, including Sanger, Next Gen Sequencing and Digital PCR. By enhancing the level of detection of genetic mutations and suppressing the

normal, “wild-type” DNA, several benefits are provided. It is generally understood that most current technologies are unable to consistently identify mutations that occur in less than approximately 5% of a sample. However, many mutations found at much lower levels, even down to 0.01% are known to be clinically relevant and can have significant consequences to a patient: both in terms of how they will respond to a given drug or treatment and how a given tumor is likely to change over time. More importantly, in our view, significantly improving the level of detection while using blood, saliva and even urine as a source for DNA, rather than depending on painful, expensive and potentially dangerous tumor biopsies, is an important advancement in patient care with respect to cancer detection,

treatment and monitoring of the disease and can result in significant cost savings for the healthcare system by replacing invasive procedures with the simple collection of blood or other bodily fluid. By broadening the types of samples that can be used for testing and allowing all sequencing platforms to provide improved identification of low level mutations, MX-ICP has the potential to make testing much more patient friendly, enable genetic monitoring of disease progression and more effectively guide treatment protocols, and reduce the overall cost of diagnosis and monitoring while also improving patient outcomes.

Currently, our operations are organized and reviewed by management along major product lines and presented in the following two business segments;

- Laboratory Services. Our laboratories specialize in genetic testing for cardiology, neurology and mitochondrial disorders, and for oncology. Our Patient Testing laboratories located in New Haven, Connecticut and Omaha, Nebraska are certified under the Clinical Laboratory Improvement Amendment ("CLIA") as high complexity laboratories and our Omaha facility is accredited by the College of American Pathologists. Our Biomarker Identification laboratory located in Omaha provides pharmacogenomics research services supporting Phase II and Phase III clinical trials conducted by pharmaceutical and biotechnology companies. Our laboratories employ a variety of genomic testing service technologies, including our new, high performance MX-ICP technology. ICE COLD-PCR is a proprietary ultra-high sensitivity platform technology with breakthrough potential to enable wide adoption of personalized, precision medicine in cancer and other diseases. It can be run in any laboratory that contains standard PCR systems. MX-ICP enables detection of multiple known and unknown mutations from virtually any sample type, including tissue biopsies, blood, urine, saliva, cell-free DNA ("cfDNA") and circulating tumor cells ("CTCs") at levels greater than 1,000-fold higher than standard DNA sequencing techniques. It is easy to implement and use within existing workflows.
- Genetic Assays and Platforms. Our proprietary product in this business segment is the WAVE® System, which has broad applicability to genetic variation detection in both molecular genetic research and molecular diagnostics. We also distribute bio-instruments produced by other manufacturers ("OEM Equipment") through our sales and distribution network. Service contracts to maintain installed systems are sold and supported by our technical support personnel. The installed WAVE base and some OEM Equipment platforms generate a demand for consumables that are required for the continued operation of the bio-instruments. We develop, manufacture and sell these consumable products. In addition, we manufacture and sell consumable products that can be used on multiple, independent platforms. These products include a range of chromatography columns.

Segment information related to revenues, a performance measure of profit, capital expenditures, and total assets is contained in Footnote 15 - "Operating Segment and Geographic Information", to our accompanying consolidated financial statements.

Business Strategy

Our primary objective is to commercialize MX-ICP for the clinical diagnostics market through strategic licensing agreements. MX-ICP facilitates the use of blood and other bodily fluids for the effective and efficient diagnosis and treatment of cancer. It does this by enhancing the level of detection of mutant DNA by 100 - 400 fold. In tumors, mutations can often be found occurring with a frequency of around 5%, which current technologies can readily identify. However, other mutations can be present at much lower frequencies. MX-ICP makes possible 0.1% and even 0.01% levels of detection of mutant DNA. We believe that MX-ICP can help dramatically improve the diagnosis and treatment/monitoring of cancer patients. Using MC-ICP-based tests, clinicians can effectively and economically monitor a patient's therapy and progress on an ongoing basis. We plan to commercialize this product directly, but more importantly and more immediately, expect to partner with a significant number of life sciences companies to accelerate the adoption and use of the technology.

Our next set of objectives focuses on strengthening a number of our existing businesses. We continue to provide products and services to biomedical researchers, physicians, medical institutions and diagnostic and pharmaceutical companies that are tied to identifying and understanding genetic mutations and variations and their roles in disease. Our products and services help scientists and physicians understand and predict disease and drug response. As medical practitioners learn to correlate specific mutations and patterns of mutation with specific disease states, drug responses

and patient outcomes, it becomes possible to optimize a treatment regimen to a specific patient. This is known as personalized or precision medicine.

Our internal estimates for the size of the cancer diagnostics market, based on multiple industry sources, suggests a rapidly growing market with a current annual value of $2.5 billion, built on only tissue biopsies and not accounting for growth due to the potential for liquid biopsies or increased testing to monitoring cancer patients. Growth in this market has been in part fueled by the rapid adoption of Next-Generation Sequencing ("NGS") and Digital PCR, along with an emphasis by the U.S. Food & Drug Administration ("FDA") for better and more uniform compliance regarding Laboratory Designed Test assays. In spite of these changes in the market, there is still a need for more informative data to help guide treatment. We believe that this will only occur when there is a move to blood and liquid testing of cancer patients earlier and more regularly (monitoring) to ensure more accurate

diagnoses and more targeted and effective treatments. We believe that MX-ICP is at the forefront of technologies designed to accomplish this transition away from traditional biopsies, analysis and monitoring and will help allow for precision medicine to become a reality.

Transgenomic does not intend to build the extensive infrastructure necessary to fully commercialize MX-ICP. While there are applications of the technology that we will sell directly, we anticipate that the majority of revenues will be generated through a combination of exclusive, non-exclusive or semi-exclusive licenses to partners and collaborators. Our goal is to establish the fastest time to market possible for our product and to leverage already existing infrastructure rather than depend on making significant capital expenditures or other investments of our own. Our potential partners generally fall into one of three categories:

- Laboratory instrumentation and reagents suppliers (such as: Thermo Fisher Scientific, Inc., Illumina, Inc., Bio-Rad Laboratories, Inc., Qiagen N.V. and Affymetrix, Inc.). The usefulness of MX-ICP across all platforms and its ability to detect tumor mutations in a wide range of samples make such companies natural partners for Transgenomic. We believe that MX-ICP has the potential to greatly expand the market for cancer monitoring as a complement, not as a competitor, to existing products.

- Pharmaceutical and Biotechnology companies (such as: Amgen, Inc., Novartis AG, Clovis Oncology, Inc., AstraZeneca plc, GlaxoSmithKline plc and Bristol-Myers Squibb Company). For companies developing new cancer drugs, MX-ICP has the potential to reduce the risk of clinical trials, as well as support the development of companion diagnostics to match drugs with patients.

- Clinical Laboratories (such as: Laboratory Corporation of America Holdings, Quest Diagnostics Incorporated and the many CLIA-certified laboratories throughout the United States). MX-ICP would allow clinical laboratory firms to effectively compete with more specialized providers and to become full service providers as personalized, precision medicine becomes more widely adopted.

The markets in which we compete require a wide variety of technologies, products and capabilities. The combination of technological complexity and rapid change within our markets makes it difficult for a single company to develop all of the solutions that it desires to offer as part of its family of products and services. We work to broaden the range of products and services we deliver to customers in target markets through acquisitions, investments and alliances. We employ the following strategies to address the need for new or enhanced products and services:

- Developing new technologies and products internally;
- Acquiring all or parts of other companies;
- Entering into joint-development efforts with other companies; and
- Reselling other companies' products.

Our strategy is to leverage the discoveries in our Research and Development (R&D) and Biomarker Identification laboratories to create "kits" or assays to distribute through our Genetic Assays and Platforms segment, as well as tests to conduct in our Patient Testing laboratories.

We will continue to develop new applications for, and enhancements of, MX-ICP and capitalize on our expertise and intellectual properties to develop unique new applications of the MX-ICP technology for potential partnerships. We will focus on growth in our core markets via direct sales and business development activities with industry leaders across the globe.

Products

MX-ICP is our proprietary technology product with industry transforming potential. It is exclusively licensed by Transgenomic from Dana-Faber Cancer Institute. MX-ICP is a unique amplification technology that suppresses wild-type (normal) DNA and thereby enables the selective amplification of all mutations (genetic alterations) present in that region of the genome. As a result of its ultra-high sensitivity (1000 times more sensitive than standard DNA sequencing alone), it works on almost all sample types that contain DNA, including tissue, blood, urine and saliva or

sputum; it can be used on all sequencing platforms; and it is easily implemented into standard laboratory processes without significant investment of time or resources. MX-ICP has applications in all therapeutic areas, but the first and major focus at this time is the estimated $2.5 billion market for cancer testing. The Company also believes that the current market for clinical diagnostic (MDx) use of PCR, which is estimated to be in excess of $10 billion in 2015 based on external reports, will continue to grow and is a validation of the size of market for this type of technology and product. Importantly, MX-ICP is platform agnostic and can therefore be integrated and implemented into any clinical testing, basic research or biopharmaceutical laboratory. In addition, the MX-ICP product is a simple chemical reagent that is able to be mass-produced and supplied efficiently to any end user.

Our highly specialized genetics analytical services and expertise are utilized by our Biomarker Identification laboratory in Omaha, Nebraska and in our CLIA-certified Patient Testing laboratories in Omaha, Nebraska and New Haven, Connecticut. Our Biomarker Identification laboratory supports pharmaceutical companies in their clinical trials, primarily Phase II and Phase III trials. Our Patient Testing laboratories support medical professionals in the diagnosis and treatment of patients, primarily in the specialties of Cardiology and Neurology, with a range of tests within each medical specialty.

In cardiology, our FAMILION® family of tests focuses on detecting mutations that can cause cardiac channelopathies, cardiomyopathies and other rare, potentially lethal heart conditions. The specific diseases include Long QT Syndrome ("LQTS"), Familial Atrial Fibrillation ("FAF"), Hypertrophic Cardiomyopathy ("HCM") and Dilated Cardiomyopathy ("DCM"). By reducing uncertainty and finding the specific genetic causes of cardiac channelopathies and cardiomyopathies, the FAMILION tests can:

- Help diagnose a patient's disease;
- Guide treatment options; and
- Determine whether family members are at risk.

In neurology, we focus on mitochondrial disorders, epilepsy and epilepsy-like diseases. We employ a wide variety of technologies, including industry standards such as Sanger sequencing and NGS. In 2013, we introduced whole exome sequencing, which is based on NGS, and which specialists use to diagnose and treat exceptionally difficult to identify neurological disorders in patients.

Our expanding oncology tests are focused heavily on genetic mutations commonly associated with the major cancer types - lung, colorectal, breast and prostate. We primarily test for mutations in the KRAS, NRAS, BRAF and PIK3CA genes, all associated with the most common types of cancers. The presence or absence of these mutations increasingly influences oncologists' treatment choices for their patients. We have been focused on testing for low level mutations in colorectal cancer tissue biopsies that are targets for new therapies, and we intend to continue this and improve on it as we incorporate our MX-ICP technology products into our oncology testing menu. We also offer tests for hereditary cancer-predisposing syndromes.

Our laboratory expertise is leveraged in our Genetic Assays and Platforms segment, which focuses on assembly and delivery of highly-sensitive mutation detection equipment, primarily our WAVE platform. We also sell WAVE MCE and Hanabi instruments, as well as the bioconsumables, including test kits used with these instruments for molecular testing and cytogenetics. Our equipment systems offer discovery and detection of genetic variations at close to 100% sensitivity, making them among the most sensitive and accurate technologies for detection of known and unknown mutations and single nucleotide polymorphisms (SNPs). These equipment systems are used throughout the world to screen for a large variety of diseases. More than 350 human genes have been screened entirely or partly using Direct High Pressure Liquid Chromatography (DHPLC), the underlying technology used by our equipment systems. A multitude of other applications are being used with WAVE Systems in such diverse areas as plant genomics, microbial analysis and drug sensitivity.

We continue to leverage the synergies of our two segments, capitalizing on discoveries in our R&D and Biomarker Identification laboratories to create "kits" or test assays to distribute through our Genetic Assays and Platforms segment, as well as tests to conduct in our Patient Testing laboratories.

Sales and Marketing

Our strategy for commercializing MX-ICP is to focus on enabling strategic licensing technology agreements with established partners in the fields of: instrumentation and reagent suppliers, biotechnology and pharmaceutical companies, and clinical laboratories. In order to optimize this we are focusing on these business to business activities and using external consultants with significant market and domain expertise to accelerate this strategy. We anticipate announcing the first such transaction[s] in 2015. Additionally MX-ICP will be offered as a part of our services to our pharmaceutical and biotechnology clients by our dedicated services team, in order to enable clinical studies and patient stratification work currently underway or in development with our current clients. Our core Sales and Support team consists of regionally-based sales people, service engineers and applications scientists to support our sales and

marketing activities worldwide. We have sold our legacy products and services to customers in over 50 countries. We use a direct sales and support staff for sales in the U.S. and Europe. For the rest of the world, we sell our products through dealers and distributors within local markets. We currently have over 35 dealers and distributors.

Customers

We expect to expand our customer base in 2015 and onwards through licensing and partnership agreements for MX-ICP with instrumentation and reagents suppliers, pharmaceutical and biotechnology companies and clinical laboratories.

Currently, physicians requesting genetic tests for their patients are our primary source of current revenues for laboratory services. Fees for laboratory testing services rendered for these physicians are billed either to the physician, the patient or the

patient's third-party payer such as an insurance company or Medicare. Billings are typically on a fee-for-service basis. The patient or third-party payer is billed at our patient fee schedule. Commercial insurance providers are billed at contracted rates or other generally-accepted market reimbursement rates. Revenues received from Medicare billings are based on government-established fee schedules and reimbursement rules.

Our customers include a number of large, established pharmaceutical, biotech and commercial companies as well as leading academic and medical institutions in the U.S. and abroad. No customer accounted for more than 10% of our consolidated net sales for the years ended December 31, 2014, 2013 or 2012. Information regarding the revenues attributable to U.S. and international markets is set forth in Footnote 15 - "Operating Segment and Geographic Information", to our accompanying consolidated financial statements.

Research and Development

We continue to invest in research and development in order to remain competitive and to take advantage of new business opportunities as they arise. We maintain a program of research and development with respect to platform technologies, such as ICE COLD-PCR, instruments, test kits and services, engaging existing and new technologies to create scientific and medical applications that will add value to patient care as well as significant commercial value. Major areas of focus include the (i) development of ICE COLD-PCR applications for ultra-high sensitivity mutation detection in any liquid (including blood, sputum and urine) and tissue samples (fresh, frozen, FNA, FFPE, etc.); (ii) development of a new strategy for mutation detection and sequence confirmation using micro-capillary electrophoresis; (iii) use of commercially-available assays and the development of custom assays for detection of somatic mutations in cancer samples using NGS and digital PCR or droplet PCR; and (iv) development of biomarker assays for the marketplace. For the years ended December 31, 2014, 2013 and 2012, our research and development expenses were $2.9 million, $3.2 million and $2.5 million, respectively.

Manufacturing

We manufacture bioconsumable products including our test kits, separation columns, liquid reagents and enzymes. The major components of our WAVE Systems are manufactured for us by a third party. We integrate our hardware and software with these third party manufactured components. Our manufacturing facilities for WAVE Systems and bioconsumables are located in Omaha, Nebraska and San Jose, California.

Intellectual Property

To establish and protect our proprietary technologies and products, we rely on a combination of patent, copyright, trademark and trade secret laws, license agreements' contractual confidentiality provisions and confidentiality agreements. Our WAVE Systems and related consumables are protected by patents and in-licensed technologies that expire in various periods through 2030. Our ICE COLD-PCR platform technology is protected by in-licensed patents that expire in various periods through 2031. As part of the FAMILION acquisition in 2010, we acquired exclusive rights to the FAMILION family of genetic tests for inherited disease, including the patents protecting this technology. As we expand our product offerings, we also are extending our patent development efforts to protect such product offerings. Established competitors, as well as companies that purchase and enforce patents and other intellectual property, may already have patents covering similar products. There is no assurance that we will be able to obtain patents covering our products, or that we will be able to obtain licenses from such companies on favorable terms or at all. However, while patents are an important element of our success, our business as a whole is not significantly dependent on any one patent.

We will continue to file patent applications, seek new licenses, take advantage of available copyright and trademark protections and implement appropriate trade secret protocols to protect our intellectual property. Despite these precautions, there can be no assurance that misappropriation of our products and proprietary technologies will not occur.

In addition to our own products, we distribute or act as a sales agent for OEM Equipment developed by third parties. Our rights to those third party products and the associated intellectual property rights are limited by the terms of the contractual agreement between us and the respective third party.

Although we believe that our developed and licensed intellectual property rights do not infringe upon the proprietary rights of third parties, there can be no assurance that third parties will not assert infringement claims against us. Further, there can be no assurance that intellectual property protection will be available for our products in the U.S. or foreign countries.

Like many companies in the biotechnology and other high-tech industries, third parties have in the past and may in the future assert claims or initiate litigation related to patent, copyright, trademark or other intellectual property rights to business processes, technologies and related standards that are relevant to us and our customers. These assertions have increased over time as a result of the general increase in patent claims assertions, particularly in the United States. Third parties may also claim that their intellectual property rights are being infringed by our customers' use of a business process method that utilizes products in conjunction with other products, which could result in indemnification claims against us by our customers. Any claim against us, with or without merit, could be time-consuming and a distraction to management, result in costly litigation, cause product delivery delays, require us to enter into royalty or licensing agreements or pay damages or amounts in settlement, prohibit us from selling certain products or require us to develop alternative non-infringing technology. We could also be required to defend or indemnify our customers against such claims.

Government Regulation

We are subject to a variety of federal, state and municipal environmental and safety laws based on our use of hazardous materials in both manufacturing and research and development operations. We believe that we are in material compliance with applicable environmental laws and regulations. However, if we cause contamination to the environment, intentionally or unintentionally, we could be responsible for damages related to the clean-up of such contamination or individual injury caused by such contamination. We cannot predict how changes in laws and regulations will impact how we conduct our business operations in the future or whether the costs of compliance will increase in the future.

Regulation by governmental authorities in the United States and other countries is not expected to be a significant factor in the manufacturing, labeling, distribution and marketing of our products and systems. However, we continue to monitor and engage in dialog with the FDA and other regulatory bodies. Please see the section of this Annual Report entitled "Risk Factors" for other risks associated with regulatory requirements.

Competition

The markets in which we operate are highly competitive and characterized by rapidly changing technological advances. Many of our competitors possess greater resources than us and may be able to develop and offer a greater breadth of products and/or services, coupled with significant marketing and distribution capabilities. We compete principally on the basis of uniquely enabling scientific technical advantages in specific but significant market segments.

Our Laboratory Services segment faces competition from a number of companies offering contract DNA sequencing and other genomic analysis services, including SeqWright and others. In addition, several clinical diagnostics service providers, such as LabCorp, Quest Diagnostics, Foundation Medicine, GeneDx and Baylor College of Medicine, also offer related laboratory services. Finally, additional competition arises from academic core laboratory facilities. Competition for our WAVE System arises primarily from DNA sequencing and genotyping technologies. Competitors in these areas include, among others, Thermo Fisher, Qiagen N.V., F. Hoffman-La Roche, Ltd., Sequenom, Inc and Illumina, Inc. Competition for some of our non-WAVE consumable products comes from numerous well-diversified life sciences reagents providers, including, among others, Thermo Fisher, Qiagen N.V., Roche, Agilent Technologies, Inc. and Promega Corporation.

Employees

As of December 31, 2014 and 2013, we had employees focused in the following areas of operation:

	December 31,	
	2014	2013
Manufacturing and Laboratory	84	76
Sales, Marketing and Administration	60	86
Research and Development	8	9
	152	171

Of our 152 total employees as of December 31, 2014, a total of 150 were full-time employees.

Our employees were employed in the following geographical locations:

	December 31,	
	2014	2013
United States	131	151
Europe (other than the United Kingdom)	11	10
United Kingdom	10	10
	152	171

General Information

We were incorporated in Delaware on March 6, 1997. Our principal office is located at 12325 Emmet Street, Omaha, Nebraska 68164 (telephone: 402-452-5400). This facility houses certain administrative staff and laboratories. We maintain manufacturing facilities in Omaha, Nebraska and San Jose, California. We maintain research and development offices in Omaha, Nebraska. We maintain laboratories in Omaha, Nebraska and New Haven, Connecticut that have been certified under the CLIA. Our New Haven facility also houses certain administrative operations.

Our Internet website is located at http://www.transgenomic.com. The information on our website is not a part of this Annual Report. We make available free of charge on our website our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. Our SEC reports can be accessed through the investor relations section of our Internet website.

The public may also read and copy any materials we file with the SEC at the SEC’s Public Reference Room at 100 F Street, N.E., Room 1580, Washington, DC 20549. The public may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC also maintains an Internet website that contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC. The SEC’s Internet website is located at http://www.sec.gov.

Executive Officers of the Registrant

Paul Kinnon. Mr. Kinnon, age 51, has served as our President and Chief Executive Officer and a Director since September 2013 and as our Interim Chief Financial Officer since October 2014. Mr. Kinnon has more than 20 years of global leadership experience in innovative life science and diagnostics companies. From January through August 2013, he provided consulting services to the life science sector as a Partner at Arch Global Research. During a portion of this time, Mr. Kinnon provided consulting services to us. From January 2007 to December 2012, Mr. Kinnon was President, Chief Executive Officer and a Director of ZyGEM Corporation Limited, a biotechnology company, where he transformed the company from a regional enzyme provider into a leader in integrated microfluidic technologies for forensic and clinical diagnostic applications. From May 2006 to June 2007, Mr. Kinnon was Vice President & General Manager Environmental Diagnostics (later expanded to Applied Markets) at Invitrogen Corporation (now Life Technologies), a high growth life sciences and diagnostics firm, and from October 2004 until April 2006, he was Vice President, Global Strategic Alliances at Invitrogen. Previously, Mr. Kinnon also held business, sales and marketing roles of increasing responsibility at Guava Technologies, Inc., Cellomics, Inc. and other life science companies. Mr. Kinnon earned his Bachelor of Sciences degree in Applied Chemistry at Coventry University in the United Kingdom and holds a Diploma of Marketing.

Leon F. Richards. Mr. Richards, age 58, was appointed our Chief Accounting Officer by our Board of Directors in October 2014. Mr. Richards is an experienced corporate finance executive and certified public accountant with more than 30 years of experience building and leading financial organizations. Mr. Richards has served as our Controller since November 2012. He most recently served as Controller and Chief Accounting Officer of Baldwin Technology Company, Inc., a leading global supplier of process automation equipment for the printing and publishing industry, from May 2004 to September 2012. Mr. Richards earned his Bachelor of Business Administration and Accounting from Iona College.

Item 1A. Risk Factors

We have a history of operating losses and may incur losses in the future.

We have experienced annual losses from continuing operations since inception of our operations. Our operating loss for the years ended December 31, 2014, 2013 and 2012 was $17.3 million, $15.8 million and $9.5 million, respectively. These historical

losses have been due principally to the expenses that we have incurred in order to develop and market our products, the fixed nature of our manufacturing costs and merger and acquisition costs.

Recurring operating losses raise substantial doubt about our ability to continue as a going concern.

We have incurred substantial operating losses and have used cash in our operating activities for the past few years. As of December 31, 2014, we had working capital of approximately $2.3 million. During the first quarter of 2015, we received net proceeds of approximately $7.1 million from the issuance and sale of unsecured convertible promissory notes and issuance of common stock.

Our current operating plan projects improved operating results, improvement in collection rates and monetization of underutilized assets. There are no guarantees that these efforts will be successful and, if not, we may use more cash than projected and not be able to meet our current obligations through December 31, 2015. These conditions raise substantial doubt about our ability to continue as a going concern.

As with any operating plan, there are risks associated with our ability to execute it. Therefore, there can be no assurance that we will be able to satisfy our obligations, or achieve the operating improvements as contemplated by the current operating plan. If we are unable to execute this plan, we will need to find additional sources of cash not contemplated by the current operating plan and/or raise additional capital to sustain continuing operations as currently contemplated. We could raise additional funds through various potential sources such as through the sale of assets or sale of debt or equity securities. However, there can be no assurance that the additional funding sources will be available to us at reasonable terms or at all. If we are unable to achieve our operating plan or obtain additional financing, our business would be jeopardized and we may not be able to continue as a going concern.

Our future capital needs are uncertain and we may need to raise additional funds in the future.

Our future capital needs are uncertain and we may need to raise additional funds in the future through debt or equity offerings. Our future capital requirements will depend on many factors, including, but not limited to:

- Revenue generated by sales of our products;
- Expenses incurred in manufacturing and selling our products;
- Costs of developing new products or technologies;
- Costs associated with capital expenditures;
- The number and timing of acquisitions and other strategic transactions; or
- Working capital requirements related to growing new acquisitions or existing business.

Governmental payers and health care plans have taken steps to control costs.

Medicare, Medicaid and private insurers have increased their efforts to control the costs of health care services, including clinical testing services. They may reduce fee schedules or limit/exclude coverage for certain types of tests that we perform. Medicaid reimbursement varies by state and is subject to administrative and billing requirements and budget pressures. We expect efforts to reduce reimbursements, impose more stringent cost controls and reduce utilization of testing services will continue. These efforts, including changes in laws or regulations, may have a material adverse impact on our business.

We might enter into new acquisitions that are difficult to integrate, disrupt our business, dilute stockholder value or divert management attention.

Our success will depend in part on our ability to continually enhance and broaden our product offerings in response to changing technologies, customer demands and competitive pressures. We expect to seek to acquire businesses, technologies or products that will complement or expand our existing business, including acquisitions that could be material in size and scope. Any acquisition we might make in the future might not provide us with the benefits we anticipated upon entering into the transaction. Any future acquisitions involve various risks, including:

- Difficulties in integrating the operations, technologies, products and personnel of the acquired entities;

- The risk of diverting management's attention from normal daily operations of the business;
- Potential difficulties in completing projects associated with in-process research and development;
- Risks of entering markets in which we have no or limited direct prior experience and where competitors in such markets have stronger market positions;
- Initial dependence on unfamiliar supply chains or relatively small supply partners;
- Unexpected expenses resulting from the acquisition;

- Potential unknown liabilities associated with acquired businesses;
- Insufficient revenues to offset increased expenses associated with the acquisition; and
- The potential loss of key employees of the acquired entities.

An acquisition could result in the incurrence of debt, restructuring charges or significant one-time write-offs. Acquisitions also could result in goodwill and other intangible assets that are subject to impairment tests, which might result in future impairment charges. Furthermore, if we finance acquisitions by issuing convertible debt or equity securities, our existing stockholders may be diluted.

From time to time, we might enter into negotiations for acquisitions that are not ultimately consummated. Those negotiations could result in diversion of management time and potentially significant out-of-pocket costs. If we fail to evaluate and execute acquisitions accurately, we could fail to achieve our anticipated level of growth and our business and operating results could be adversely affected.

Weakness in U.S. or global economic conditions could have an adverse effect on our businesses.

The economies of the United States and other regions of the world in which we do business have experienced significant weakness, which, in the case of the U.S., has recently resulted in significant unemployment and slower growth in economic activity. A decline in economic conditions may adversely affect demand for our services and products, thus reducing our revenue. These conditions could also impair the ability of those with whom we do business to satisfy their obligations to us. The strengthening dollar has the potential to adversely impact U.S. businesses that operate overseas.

Sales have been variable.

Testing volumes in our Patient Testing laboratories are dependent on patient visits to doctors' offices and other providers of health care and tend to fluctuate. Testing volume generally declines during the year-end holiday periods, other major holidays and the summer months. Also, our laboratories perform project-based work that changes from quarter to quarter. Therefore, comparison of the results of successive quarters may not accurately reflect trends or results for the full year.

Changes in payer mix could have a material adverse impact on our net sales and profitability.

Testing services are billed to physicians, patients, government payers such as Medicare, and insurance companies. Tests may be billed to different payers depending on a particular patient's medical insurance coverage. Government payers have increased their efforts to control the cost, utilization and delivery of health care services as well as reimbursement for laboratory testing services. Further reductions of reimbursement for Medicare and Medicaid services or changes in policy regarding coverage of tests or other requirements for payment, such as prior authorization or a physician or qualified practitioner's signature on test requisitions, may be implemented from time to time. Reimbursement for the laboratory services component of our business is also subject to statutory and regulatory reduction. Reductions in the reimbursement rates and changes in payment policies of other third party payers may occur as well. Such changes in the past have resulted in reduced payments as well as added costs and have decreased test utilization for the clinical laboratory industry by adding more complex new regulatory and administrative requirements. As a result, increases in the percentage of services billed to government payers could have an adverse impact on our net sales.

We may experience temporary disruptions and delays in processing biological samples at our facilities.

We may experience delays in processing biological samples caused by software and other errors. In early 2012, our laboratory information management system ("LIMS") installed in our New Haven, Connecticut laboratory testing facility experienced a software failure that resulted in reduced sample processing capacity. Although we have reviewed and improved our internal procedures to secure proper functioning of our LIMS and we believe that the full sample processing capacity has been restored, there are no assurances that we will not experience future temporary delays or disruptions in processing samples at our New Haven, Connecticut facility or at our other facilities. Any delay in processing samples could have an adverse effect on our business, financial condition and results of operations.

Our laboratories require ongoing CLIA certification.

The CLIA extended federal oversight to virtually all clinical laboratories by requiring that they be certified by the federal government or by a federally-approved accreditation agency. The CLIA requires that all clinical laboratories

meet quality assurance, quality control and personnel standards. Laboratories must also undergo proficiency testing and are subject to inspections.

The sanctions for failure to comply with the CLIA requirements include suspension, revocation or limitation of a laboratory's CLIA certificate, which is necessary to conduct business, cancellation or suspension of the laboratory's approval to

receive Medicare and/or Medicaid reimbursement, as well as significant fines and/or criminal penalties. The loss or suspension of a CLIA certification, imposition of a fine or other penalties, or future changes in the CLIA law or regulations (or interpretation of the law or regulations) could have a material adverse effect on us.

We believe that we are in compliance with all applicable laboratory requirements, but no assurances can be given that our laboratories will pass all future certification inspections.

Failure to comply with HIPAA could be costly.

The Health Insurance Portability and Accountability Act ("HIPAA") and associated regulations protect the privacy and security of certain patient health information and establish standards for electronic health care transactions in the United States. These privacy regulations establish federal standards regarding the uses and disclosures of protected health information. Our Molecular Labs are subject to HIPAA and its associated regulations. If we fail to comply with these laws and regulations we could suffer civil and criminal penalties, fines, exclusion from participation in governmental health care programs and the loss of various licenses, certificates and authorizations necessary to operate our Patient Testing business. We could also incur liabilities from third party claims.

Our business could be adversely impacted by health care reform.

Government attention to the health care industry in the United States is significant and may increase. The Patient Protection and Affordable Care Act passed by Congress and signed into law by President Obama in March 2010 could adversely impact our business. While certain portions of the legislation have already gone into effect, the ultimate impact of the legislation on the health care industry is still unknown, and the overall impact on our business is likely to be extensive and could result in significant changes to our business and our customers' businesses.

We may be subject to client lawsuits.

Providers of clinical testing services may be subject to lawsuits alleging negligence or other legal claims. Potential suits could involve claims for substantial damages. Litigation could also have an adverse impact on our client base and our reputation. We maintain liability insurance coverage for certain claims that could result from providing or failing to provide clinical testing services, including inaccurate testing results and other exposures. Our insurance coverage limits our maximum recovery on individual claims and, therefore, there is no assurance that such coverage will be adequate.

Market demand is outside of our control.

There are many factors that affect the market demand for our products and services that we cannot control. Demand for our WAVE System is affected by the needs and budgetary resources of research institutions, universities, hospitals and others who use the WAVE System for genetic variation research. The WAVE System represents a significant expenditure by these types of customers and often requires a long sales cycle. Similarly, the sales cycle for the OEM Equipment that we sell can be lengthy.

The sale of our products and business operations in international markets subjects us to additional risks.

During the past several years, international sales have represented a significant portion of our total net sales. As a result, a major portion of our net sales are subject to risks associated with international sales and operations. These risks include:

- Payment cycles in foreign markets are typically longer than in the U.S., and capital spending budgets for research agencies can vary over time with foreign governments;
- Changes in foreign currency exchange rates can make our products more costly in local currencies because our foreign sales are typically paid for in British Pounds or in Euros;
- The potential for changes in U.S. and foreign laws or regulations that result in additional import or export restrictions, higher tariffs or other taxes, more burdensome licensing requirements or similar impediments may limit our ability to sell products and services profitably in these markets; and
- The fluctuation of foreign currency exchange rates to the U.S. Dollar and the Euro to the British Pound can cause our net sales and expenses to increase or decrease, which adds risk to our financial statements.

Our WAVE System includes hardware components and instrumentation manufactured by a single supplier and if we are no longer able to obtain these components and instrumentation our ability to manufacture our products could be impaired.

We rely on a single supplier, Hitachi High Technologies America, Inc., to provide the basic instrument modules used in our WAVE Systems. While other suppliers of instrumentation are available, we believe that our arrangement with Hitachi offers strategic advantages. We have successfully converted the latest model of WAVE Systems to utilize Hitachi's newest instrument line. If we were required to seek alternative sources of supply, it could be time consuming and may require significant and costly

modification of our WAVE System. Also, if we were unable to obtain instruments from Hitachi in sufficient quantities or in a timely manner, our ability to manufacture our products could be impaired, which could limit our future net sales.

Our dependence on our suppliers exposes us to certain risks.

We rely on various suppliers for products and materials to produce our products. In the event that they would be unable to deliver these items due to product shortages or business closures, we may be unable to deliver our products to our customers in a timely manner or may need to increase our prices. The current economy poses the additional risk of our suppliers' inability to continue their businesses as usual.

Our markets are very competitive.

Many of our competitors have greater resources than we do and may enjoy other competitive advantages. This may allow them to more effectively market their products to our customers or potential customers, to develop products that make our products obsolete or to produce and sell products less expensively than us. As a result of these competitive factors, demand for and pricing of our products and services could be negatively affected.

Our patents may not protect us from others using our technology, which could harm our business and competitive position.

Patent law relating to the scope of claims in the technology fields in which we operate is still evolving. The degree of future protection for our proprietary rights is uncertain. Furthermore, we cannot be certain that others will not independently develop similar or alternative products or technology, duplicate any of our products, or, if patents are issued to us, design around the patented products developed by us. Our patents or licenses could be challenged by litigation and, if the outcome of such litigation were adverse to us, our competitors could be free to use our technology. We may not be able to obtain additional patents for our technology, or if we are able to do so, patents may not provide us with adequate protection or be commercially beneficial. In addition, we could incur substantial costs in litigation if we are required to defend ourselves in patent suits brought by third parties or if we initiate such suits.

We cannot be certain that other measures taken to protect our intellectual property will be effective.

We rely upon trade secrets, copyright and trademark laws, non-disclosure agreements and other contractual confidentiality provisions to protect some of our confidential and proprietary information that we are not seeking patent protection for various reasons. Such measures, however, may not provide adequate protection for our trade secrets or other proprietary information. If such measures do not protect our rights, third parties could use our technology and our ability to compete in the market would be reduced.

We are dependent upon licensed technologies and may need to obtain additional licenses in the future to offer our products and remain competitive.

We have licensed key components of our technologies from third parties. If these agreements were to terminate prematurely due to our breach of the terms of these licenses or we otherwise fail to maintain our rights to such technologies, we may lose the right to manufacture or sell a substantial portion of our products. In addition, we may need to obtain licenses to additional technologies in the future in order to keep our products competitive. If we fail to license or otherwise acquire necessary technologies, we may not be able to develop new products that we need to remain competitive.

The protection of intellectual property in foreign countries is uncertain.

A significant percentage of our sales are to customers located outside the U.S. Patent and other intellectual property laws of some foreign countries may not protect our intellectual property rights to the same extent as U.S. laws. We may need to bring proceedings to defend our patent rights or to determine the validity of our competitors' foreign patents. These proceedings could result in substantial cost and diversion of our other efforts. Finally, some of the patent protections available to us in the U.S. are not available to us in foreign countries due to the laws of those countries.

Our products could infringe on the intellectual property rights of others.

There are a significant number of U.S. and foreign patents and patent applications submitted for technologies in, or related to, our area of business. As a result, our use of our technology could infringe patents or proprietary rights of others. This may lead others to assert patent infringement or other intellectual property claims against us. We could

incur substantial costs in litigation if we are required to defend against intellectual property claims by third parties. Additionally, any licenses that we might need as a result of any actual infringement might not be available to us on commercially reasonable terms, if at all.

Our failure to comply with any applicable government laws and regulations or otherwise respond to claims relating to improper handling, storage or disposal of hazardous chemicals that we use may adversely affect our results of operations.

Our research and development and manufacturing activities involve the controlled use of hazardous materials and chemicals. We are subject to federal, state, local and international laws and regulations governing the use, storage, handling and disposal of hazardous materials and waste products. If we fail to comply with applicable laws or regulations, we could be required to pay penalties or be held liable for any damages that result and this liability could exceed our financial resources. We cannot be certain that accidental contamination or injury will not occur. Any such accident could damage our research and manufacturing facilities and operations, resulting in delays and increased costs.

We may need additional capital to finance our growth or to compete, which may cause dilution to existing stockholders or limit our flexibility in conducting our business activities.

We currently anticipate that existing cash and cash equivalents and cash flow from operations will be sufficient to meet our anticipated needs for working capital, operating expenses and capital expenditures for at least the next twelve months. However, we may need to raise additional capital in the future to fund expansion, respond to competitive pressures or acquire complementary businesses, technologies or services. Such additional financing may not be available on terms acceptable to us or at all. To the extent that we raise additional capital by issuing equity securities, our stockholders may experience substantial dilution, and to the extent we engage in additional debt financing, if available, we may become subject to additional restrictive covenants that could limit our flexibility in conducting future business activities. If additional financing is not available or not available on acceptable terms, we may not be able to fund our expansion, promote our brands, take advantage of acquisition opportunities, develop or enhance services or respond to competitive pressures.

We may issue a substantial amount of our common stock to holders of options and warrants and this could reduce the market price for our stock.

At December 31, 2014, we had obligations to issue 6,613,572 shares of common stock upon exercise of outstanding stock options, warrants or conversion rights. On December 31, 2014 and January 15, 2015, we issued unsecured outstanding convertible promissory notes in the aggregate principal amount of $1,675,000, which are convertible into shares of our common stock. On February 27, 2015, we entered into a purchase agreement pursuant to which we issued 3,573,899 shares of our common stock and corresponding warrants to purchase up to 714,780 shares of our common stock. The issuance of these securities may be dilutive to our current stockholders and could negatively impact the market price of our common stock.

Our common stock is thinly traded and a large percentage of our shares are held by a small group of unrelated, institutional owners.

At December 31, 2014, we had 8,084,471 shares of common stock outstanding. The sale of a significant number of shares into the public market has the potential to cause significant downward pressure on the price of our common stock. This is particularly the case if the shares being placed into the market exceed the market’s ability to absorb the stock. This presents an opportunity for short sellers to contribute to the further decline of our stock price. If there are significant short sales of our stock, the price decline that would result from this activity will cause the share price to decline more so, which, in turn, may cause long holders of the stock to sell their shares, thereby contributing to sales of our stock in the market. In addition, the large concentration of our shares are held by a small group of stockholders which could result in increased volatility in our stock price due to the limited number of shares available in the market.

Ineffective internal controls could impact our business and financial results. We identified material weaknesses in our internal control over financial reporting as of December 31, 2014.

Our internal control over financial reporting may not prevent or detect misstatements because of its inherent limitations, including the possibility of human error, the circumvention or overriding of controls, or fraud. Even effective internal controls can provide only reasonable assurance with respect to the preparation and fair presentation of financial statements. If we fail to maintain the adequacy of our internal controls, including any failure to implement required new or improved controls, or if we experience difficulties in their implementation, our business and financial

results could be harmed, we could fail to meet our financial reporting obligations and we may not be able to accurately report financial results or prevent fraud.

As further described in Item 9A of this Form 10-K, management has concluded that, because of material weaknesses in internal control over financial reporting, our internal control over financial reporting and our disclosure controls and procedures were not effective as of December 31, 2014. Specifically, management determined that we did not maintain effective control over proper timing and recognition of revenue and over the elements used in our analysis and evaluation of the allowance for doubtful accounts to ensure that the allowance for doubtful accounts was reasonably stated. A “material weakness” is a deficiency, or a

combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the annual or interim financial statements would not be prevented or detected on a timely basis. If we fail to remediate these material weaknesses in our internal controls, or after having remediated such material weaknesses, thereafter fail to maintain the adequacy of our internal control over financial reporting or our disclosure controls and procedures, we could be subjected to regulatory scrutiny, civil or criminal penalties or stockholder litigation, the defense of any of which could cause the diversion of management's attention and resources, we could incur significant legal and other expenses, and we could be required to pay damages to settle such actions if any such actions were not resolved in our favor. Moreover, we may be the subject of negative publicity focusing on these material weaknesses and we may be subject to negative reactions from stockholders and others with whom we do business.

Failure to comply with covenants in our loan agreement with affiliates of Third Security, LLC could adversely affect us.

Our revolving line of credit and term loan with affiliates of Third Security, LLC (the "Lenders") are governed by a Loan and Security Agreement, which contains certain affirmative and negative covenants. Under the term loan, we are required to maintain a minimum liquidity ratio and achieve a minimum amount of revenue, and we also agreed not to (i) pledge or otherwise encumber our assets other than to the Lenders, (ii) enter into additional borrowings or guarantees, (iii) repurchase our capital stock, or (iv) enter into certain mergers or acquisitions without the Lenders' consent. To secure the repayment of amounts borrowed under the revolving line of credit and term loan, we granted the Lenders a security interest in all of our assets. Failure to comply with the covenants under the loan agreement would be an event of default under the loan agreement that, if not cured or waived, would give the Lenders the right to cease making additional advances, accelerate repayment of all sums due and take action to collect the amounts owed to them, including foreclosing on their security interest, which would have a material adverse effect on our financial condition and results of operations.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

We currently lease facilities throughout the world under non-cancelable leases with various terms. The following table summarizes certain information regarding our leased facilities. Annual rent amounts presented in the table are reflected in thousands.

Location	Function	Square Footage	2014 Scheduled Rent	Lease Term Expires
Omaha, Nebraska	WAVE and Consumable Manufacturing	25,000	$149	July 2016
San Jose, California	Consumable Manufacturing	9,110	$62	February 2016
Glasgow, Scotland	Multi Functional (1)	5,059	$36	May 2017
Omaha, Nebraska	Multi Functional (1)	18,265	$217	July 2022
Omaha, Nebraska	Multi Functional (1)	4,410	$40	May 2017
New Haven, Connecticut	Multi Functional (1)	22,459	$427	June 2018

(1) Multi Functional facilities include functions related to manufacturing, services, sales and marketing, research and development and/or administration.

We believe that these facilities are adequate to meet our current and planned needs. We believe that if additional space is needed in the future, we could find alternate space at competitive market rates without a substantial increase in cost.

Item 3. Legal Proceedings.

We are subject to a number of claims of various amounts which arise out of the normal course of our business. In our opinion, the disposition of pending claims will not have a material adverse effect on our financial position, results of operations or cash flows.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.

Market Information. Our common stock is listed on the NASDAQ Capital Market under the symbol "TBIO". Prior to May 9, 2014, our common stock traded on the OTCQB under the symbol "TBIO". The following table sets forth the high and low closing prices for our common stock during each of the quarters of 2014 and 2013. The over-the-counter market quotations reflect inter-dealer prices, without retail mark-up, mark-down or commission and may not necessarily represent actual transactions.

	High	Low
Year Ended December 31, 2014		
First Quarter	$6.42	$4.21
Second Quarter	$4.85	$3.10
Third Quarter	$4.00	$3.60
Fourth Quarter	$3.81	$1.52
Year Ended December 31, 2013		
First Quarter	$8.64	$4.68
Second Quarter	$5.88	$3.72
Third Quarter	$5.64	$4.20
Fourth Quarter	$7.32	$4.68

Performance Graph. We are a smaller reporting company, as defined by Rule 12b-2 of the Exchange Act, and are not required to provide the information required under this item.

Holders. At March 31, 2015, there were 11,857,078 shares of our common stock outstanding and approximately 82 holders of record.

Dividends. We have never declared or paid any cash dividends on our common stock and we do not anticipate paying any cash dividends on our common stock in the foreseeable future. Dividends on our common stock will be paid only if and when declared by our Board. The Board's ability to declare a dividend is subject to limits imposed by Delaware corporate law. Additionally, pursuant to each of the Certificate of Designation of Series A Convertible Preferred Stock, as amended, and the Certificate of Designation of Series B Convertible Preferred Stock, we are prohibited from declaring dividends on our common stock without the prior written consent of the holders of at least two-thirds of the outstanding shares of preferred stock; provided that the Board may declare dividends payable solely in common stock without the prior written consent of the preferred holders. Pursuant to the terms of the Loan and Security Agreement by and between us and affiliates of the Lenders, our Board also may not pay any dividends without the prior consent of the Lenders; provided that our Board may pay dividends solely in common stock without such consent. In determining whether to declare dividends, the Board may consider our financial condition, results of operations, working capital requirements, future prospects and other relevant factors. The holders of our Series A Convertible Preferred Stock (the "Series A Preferred Stock") and the holders of our Series B Convertible Preferred Stock (the "Series B Preferred Stock") are entitled to receive quarterly dividends, which accrue at the rate of 10% of the original price per share per annum for the Series A Preferred Stock and at the rate of 6% of the original price per share per annum for the Series B Preferred Stock, whether or not declared, and which compound annually and are cumulative.

Sales of Unregistered Securities.

2014 Preferred Stock Agreement: On March 5, 2014, Transgenomic entered into a Series B Convertible Preferred Stock Purchase Agreement (the "Series B Purchase Agreement") with certain accredited investors and/or their affiliates (collectively, the "2014 Investors"), pursuant to which Transgenomic, in a private placement, sold and issued to the

2014 Investors an aggregate of 1,443,297 shares of the Company's Series B Convertible Preferred Stock, par value $0.01 per share (the "Series B Preferred Stock"), at a price per share of $4.85 for an aggregate purchase price of approximately $7,000,000. Each share of Series B Preferred Stock issued pursuant to the Series B Purchase Agreement is initially convertible into shares of the Company's common stock at a rate of 1-for-1, which conversion rate is subject to further adjustment as set forth in the Certificate of Designation of Series B Convertible Preferred Stock, as filed with the Secretary of State of the State of Delaware on March 5, 2014, at the holder's option

at any time, subject to certain conditions. The Series B Preferred Stock was offered and sold in transactions exempt from registration under the Securities Act of 1933, as amended (the "Securities Act"), in reliance on Section 4(a)(2) thereof and Rule 506 of Regulation D promulgated under the Securities Act and the corresponding provisions of state securities or "blue sky" laws. Each of the 2014 Investors represented that it was an accredited investor as defined in rule 501(a) of Regulation D ("Accredited Investor") and acquired the Series B Preferred Stock for investment only and not with a view towards, or for resale in connection with, the public sale or distribution thereof.

In connection with the Series B Purchase Agreement, the Company also entered into a Registration Rights Agreement, dated March 5, 2014, with the 2014 Investors, pursuant to which the Company granted the 2014 Investors certain demand, "piggy-back" and S-3 registrations rights covering the resale of the shares of common stock underlying the Series B Preferred Stock issued pursuant to the Series B Purchase Agreement and all shares of common stock issuable upon any dividend or other distribution with respect thereto.

The 2014 Series B Preferred Stock financing required the repricing and issuance of additional common stock warrants to the holders of warrants issued in connection with our February 2012 private placement. The exercise price of these warrants decreased from $12.96 per share to $11.73 per share and the number of shares issuable upon exercise of the warrants increased from 1,097,600 to 1,212,665.

2014 Private Placement: On October 22, 2014, we entered into a Securities Purchase Agreement with certain accredited investors (the "October 2014 Investors"), pursuant to which we, in a private placement, issued and sold to the October 2014 Investors (the "2014 Private Placement") an aggregate of 730,776 shares (the "2014 Shares") of our common stock at a price per share of $3.25 for an aggregate purchase price of approximately $2.375 million, and warrants to purchase up to an aggregate of 365,388 shares of our common stock with an initial exercise price of $4.00 per share (the "2014 Warrants") that are exercisable for the period from April 22, 2015 through April 22, 2020. In connection with the 2014 Private Placement, we also issued a 2014 Warrant to purchase up to an aggregate of 9,230 shares of our common stock to one advisor. The 2014 Warrants issued in the 2014 Private Placement include both cash and "cashless exercise" features.

We issued and sold the 2014 Shares and the 2014 Warrants in reliance on the exemption from registration afforded by Section 4(a)(2) of the Securities Act and Rule 506 of Regulation D promulgated under the Securities Act and the corresponding provisions of state securities or "blue sky" laws. Each of the October 2014 Investors represented that it was an Accredited Investor acquiring the 2014 Shares and the 2014 Warrants for investment only and not with a view towards, or for resale in connection with, the public sale or distribution thereof.

The 2014 Private Placement required the repricing and issuance of additional common stock warrants to the holders of warrants issued in connection with our February 2012 private placement. The exercise price of the 2012 warrants decreased from $11.73 per share to $10.86 per share and the number of shares issuable upon exercise of the warrants increased from 1,212,665 to 1,309,785.

2014 Note Purchase Agreement: On December 31, 2014, Transgenomic entered into an Unsecured Convertible Promissory Note Purchase Agreement (the "Note Purchase Agreement") with an accredited investor (the "Note Investor") pursuant to which we agreed to issue and sell to the Note Investor in a private placement (the "Note Private Placement") an unsecured convertible promissory note (the "Note") in the aggregate principal amount of $750,000. The Note accrues interest at a rate of 6% per year and matures on December 31, 2016. Under the Note, the outstanding principal and unpaid interest accrued under the Note is convertible into shares of our common stock as follows: (i) commencing upon the date of issuance of the Note (but no earlier than January 1, 2015), the Note Investor is entitled to convert, on a one-time basis, up to 50% of the outstanding principal and unpaid interest accrued under the Note, into shares of our common stock at a conversion price equal to the lesser of (a) the average closing price of the our common stock on the principal securities exchange or securities market on which our common stock is then traded (the "Market") for the 20 consecutive trading days immediately preceding the date of conversion and (b) $2.20 (subject to adjustment for stock splits, stock dividends, other distributions, recapitalizations and the like) and (ii) commencing February 15, 2015, the Note Investor is entitled to convert, on a one-time basis, any or all of the remaining outstanding principal and unpaid interest accrued under the Note, into shares of our common stock at a conversion price equal to 85% of the average closing price of our common stock on the Market for the 15 consecutive trading days immediately preceding the date

of conversion.

Pursuant to the terms of the Note Purchase Agreement, we are subject to certain registration obligations and we may be required to effect one or more other registrations to register for resale the shares of our common stock issued or issuable under the Note (the “Note Shares”) in connection with certain “piggy-back” registration rights granted to the Note Investor.

We issued and sold the Note in reliance on the exemption from registration afforded by Section 4(a)(2) of the Securities Act and Rule 506 of Regulation D promulgated under the Securities Act and corresponding provisions of state securities or “blue sky” laws. The Note Investor represented that it was an Accredited Investor acquiring the Note, and would acquire the underlying

Note Shares, for investment only and not with a view towards, or for resale in connection with, the public sale or distribution thereof.

The Note Private Placement required the repricing and issuance of additional common stock warrants to the holders of warrants issued in connection with our February 2012 private placement. The exercise price of the 2012 warrants decreased from $10.86 per share to $10.25 per share and the number of shares issuable upon exercise of the warrants increased from 1,309,785 to 1,387,685.

Issuer Purchases of Equity Securities. We made no purchases of our common stock during the year ended December 31, 2014. Therefore, tabular disclosure is not presented.

Item 6. Selected Consolidated Financial Data.

The selected consolidated balance sheet data as of December 31, 2014 and 2013 and the selected consolidated statements of operations data for each year ended December 31, 2014, 2013 and 2012 have been derived from our audited consolidated financial statements that are included elsewhere in this Annual Report. The selected consolidated balance sheet data as of December 31, 2012, 2011 and 2010 and the selected consolidated statements of operations data for each year ended December 31, 2011 and 2010 have been derived from our audited consolidated financial statements that are not included in this Annual Report. Dollar amounts, except per share data, are presented in thousands.

This data should be read together with Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations", and the consolidated financial statements and related notes included elsewhere in this Annual Report. The financial information below is not necessarily indicative of the results of future operations. Future results could differ materially from historical results due to many factors, including those discussed in Item 1A in the section entitled "Risk Factors."

	Year Ended December 31,				
	2014	2013	2012	2011	2010
Statement of Operations Data:					
Net sales:					
Laboratory Services	$16,520	$15,391	$19,329	$18,318	$4,979
Genetic Assays and Platforms	10,563	12,153	12,151	13,653	15,069
	27,083	27,544	31,480	31,971	20,048
Cost of goods sold	17,362	16,790	18,348	15,432	12,594
Gross profit	9,721	10,754	13,132	16,539	7,454
Selling, general and administrative	24,146	23,301	20,145	17,252	8,623
Research and development	2,897	3,212	2,491	2,218	2,305
Restructuring charges [1]	—	—	—	41	138
Operating expenses	27,043	26,513	22,636	19,511	11,066
Other income (expense) [2]	3,904	(282)	1,323	(6,765)	628
Loss before income taxes	(13,418)	(16,041)	(8,181)	(9,737)	(2,984)
Income tax expense (benefit)	524	(54)	146	45	150
Net Loss	$(13,942)	$(15,987)	$(8,327)	$(9,782)	$(3,134)
Preferred stock dividends and accretion [3]	(1,144)	(726)	(660)	(1,010)	—
Net loss available to common stockholders	$(15,086)	$(16,713)	$(8,987)	$(10,792)	$(3,134)
Basic and diluted loss per share	$(2.01)	$(2.30)	$(1.55)	$(2.62)	$(0.76)
Basic and diluted weighted average shares outstanding	7,494	7,267	5,785	4,113	4,104

	As of December 31,				
	2014	2013	2012	2011	2010
Balance Sheet Data:					
Working capital	$2,317	$3,210	$3,449	$870	$6,781
Total assets	30,006	30,278	38,791	33,562	32,027
Total liabilities and mezzanine equity	23,453	18,832	18,517	22,514	23,527
Total stockholders' equity	6,553	11,446	20,274	11,048	8,500

(1) Restructuring plans were implemented in 2011 and 2010 to reduce and align our expenses with current business prospects. The plans included employee terminations, office closures, termination of collaborations and write-offs of abandoned intellectual property. As a result, restructuring charges were recorded and are included in operating expenses.

(2) Other income in 2014 includes $4.1 million from the gain on sale of our Surveyor product line. Other income in 2012 includes $2.2 million associated with the change in fair value of the common stock warrants. The income related to the change in fair value of the common stock warrants is a non-cash item. Other expense for 2011 includes expense associated with the Series A Preferred Stock and warrants to purchase shares of Series A Preferred Stock (the “Series A Warrants”)

of $6.1 million, which is due to the change in fair value of the preferred stock conversion feature. The expense associated with the change in value of the preferred stock conversion feature is a non-cash item. Other income in 2011 and 2010 includes $0.2 million and $0.6 million net of consulting fees, respectively, awarded in a federal grant under the Qualifying Therapeutic Discovery Project Program related to 2009 projects.

(3) Preferred Stock dividends and accretion in 2014 includes accrued dividends on Series A Preferred Stock and Series B Preferred Stock in an aggregate amount of $1.1 million. Preferred stock dividends and accretion in 2013 and 2012 includes accrued dividends on Series A Preferred Stock of $0.7 million. Preferred stock dividends and accretion in 2011 includes accrued dividends on Series A Preferred Stock of $0.6 million and Series A Preferred Stock accretion of $0.4 million.

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

This Management's Discussion and Analysis contains forward-looking statements that involve risks and uncertainties. Please see the section entitled "Forward-Looking Statements" at the beginning of Item 1 and the section entitled "Risk Factors" under Item 1A for important information to consider when evaluating such statements.
You are cautioned not to place undue reliance on these forward-looking statements. The forward-looking statements we make are not guarantees of future performance and are subject to various assumptions, risks and other factors that could cause actual results to differ materially from those suggested by these forward-looking statements.
We expressly disclaim any obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

Transgenomic, Inc. ("we", "us", "our", the "Company" or "Transgenomic") is a global biotechnology company advancing personalized medicine for the detection and treatment of cancer and inherited diseases through its proprietary molecular technologies and world-class clinical and research services. A key goal is to bring our Multiplexed ICE COLD-PCR ("MX-ICP") product to the clinical market rapidly through strategic licensing agreements, enabling the use of blood and other bodily fluids for more effective and patient-friendly diagnosis, monitoring and treatment of cancer.

MX-ICP is a simple, proprietary chemistry that amplifies the ability to detect genetic mutations by 100 - 400 fold. This chemistry has been validated internally on all currently available sequencing platforms, including Sanger, Next Gen Sequencing and Digital PCR. By enhancing the level of detection of genetic mutations and suppressing the normal, "wild-type" DNA, several benefits are provided. It is generally understood that most current technologies are unable to consistently identify mutations that occur in less than approximately 5% of a sample. However, many mutations found at much lower levels, even down to 0.01% are known to be clinically relevant and can have significant consequences to a patient: both in terms of how they will respond to a given drug or treatment and how a given tumor is likely to change over time. More importantly, in our view, significantly improving the level of detection while using blood, saliva and even urine as a source for DNA, rather than depending on painful, expensive and potentially dangerous tumor biopsies, is an important advancement in patient care with respect to cancer detection, treatment and monitoring of the disease and can result in significant cost savings for the healthcare system by replacing invasive procedures with the simple collection of blood or other bodily fluid. By broadening the types of samples that can be used for testing and allowing all sequencing platforms to provide improved identification of low level mutations, MX-ICP has the potential to make testing much more patient friendly, enable genetic monitoring of disease progression and more effectively guide treatment protocols, and reduce the overall cost of diagnosis and monitoring while also improving patient outcomes.

Currently, our operations are organized and reviewed by management along major product lines and presented in the following two business segments:

Laboratory Services. Our laboratories specialize in genetic testing for cardiology, neurology and mitochondrial disorders, and for oncology. Our Patient Testing laboratories located in New Haven, Connecticut and Omaha, Nebraska are certified under the Clinical Laboratory Improvement Amendment ("CLIA") as high complexity laboratories and our Omaha facility is accredited by the College of American Pathologists. Our Biomarker Identification laboratory located in Omaha provides pharmacogenomics research services supporting Phase II and Phase III clinical trials conducted by pharmaceutical and biotechnology companies. Our laboratories employ a variety of genomic testing service technologies, including our new, high performance MX-ICP technology. ICE COLD-PCR is a proprietary ultra-high sensitivity platform technology with breakthrough potential to enable wide adoption of personalized, precision medicine in cancer and other diseases. It can be run in any laboratory that contains standard PCR systems. MX-ICP enables detection of multiple known and unknown mutations from virtually any sample type, including tissue

biopsies, blood, urine, saliva, cell-free DNA (“cfDNA”) and circulating tumor cells (“CTCs”) at levels greater than 1,000-fold higher than standard DNA sequencing techniques. It is easy to implement and use within existing workflows.

Genetic Assays and Platforms. Our proprietary product in this business segment is the WAVE® System, which has broad applicability to genetic variation detection in both molecular genetic research and molecular diagnostics. We also distribute bio-instruments produced by other manufacturers (“OEM Equipment”) through our sales and distribution network. Service contracts to maintain installed systems are sold and supported by our technical support personnel.

- The installed WAVE base and some OEM Equipment platforms generate a demand for consumables that are required for the continued operation of the bio-instruments. We develop, manufacture and sell these consumable products. In addition, we manufacture and sell consumable products that can be used on multiple, independent platforms. These products include a range of chromatography columns.

The following discussion should be read together with our financial statements and related notes contained in this Annual Report. Results for the year ended December 31, 2014 are not necessarily indicative of results that may be attained in the future.

Executive Summary
2014 Results

Net sales for the year ended December 31, 2014 of $27.1 million were down slightly, decreasing $0.4 million or 2% versus the $27.5 million reported for the year ended December 31, 2013. The decrease primarily reflects a decrease in net sales in the Genetic Assays and Platforms segment as a result of lower instrument sales and expected lower bioconsumables sales resulting from the sale of our Surveyor Kits product line during 2014. We also had lower sales of our contract laboratory services in the Laboratory Services segment. These decreases were partially offset by an increase in patient testing sales, which increased 23% year-over-year, as a result of a number of new products launched in late 2013, and an increase in our core Laboratory Services business. Notably, sales from our patient testing services increased 90% in the fourth quarter of 2014 as compared to the fourth quarter of 2013.

Gross margins were impacted as profit for the year ended December 31, 2014 decreased to $9.7 million (36% of sales) versus $10.8 million (39% of sales) for the year ended December 31, 2013. The decreases in gross margins in our contract laboratory services and in our Genetic Assays and Platforms segment, in 2014 as compared to 2013, were a direct result of the sales fluctuations mentioned above. The year-over-year decreases in these margins were partially offset by a higher gross margin from our patient testing services as a result of the increased patient testing sales.

Operating expenses of $27.0 million for the year ended December 31, 2014 were $0.5 million higher than the comparable 2013 period and primarily reflect higher bad debt provisions and stock compensation costs in 2014 as compared to 2013, partially offset by decreased costs for employee salaries and benefits and lower amortization costs.

The loss from operations for the year ended December 31, 2014 was $17.3 million, versus $15.8 million for the comparable 2013 period, due to lower gross profit and somewhat higher operating expenses.

We reported a net loss of $13.9 million in 2014, down from $16.0 million for the year ended December 31, 2013. The net loss in 2014 included a $4.1 million gain that was recorded on the sale of our Surveyor Kit product line.

2014 Overview and Recent Highlights
Transgenomic is advancing personalized and precision medicine in cardiology, oncology, neurology and inherited diseases through our proprietary molecular diagnostic technologies and world-class clinical research services. Today, we are a global leader in molecular diagnostic testing with a family of innovative products.

In 2014, we continued to implement our new strategy of focusing on our core, high growth potential businesses while selectively redeploying some non-core assets. This strategy is starting to bear fruit, with Transgenomic reporting sales gains in its core Patient Testing and Laboratory Services businesses. Consistent with our focus on commercialization of our breakthrough MX-ICP technology, many of the important developments in 2014 were aimed at advancing this key program.

In early January, 2015, Transgenomic announced that the commercial launch of its MX-ICP product was scheduled for early 2015. MX-ICP is an ultra-high sensitivity DNA amplification technology that enables the simultaneous detection of known and unknown mutations from either tumor tissue or liquid samples, such as blood, saliva or urine, on all platforms. MX-ICP is complementary to current sequencing technologies and delivers major advantages compared to the current technologies used on their own. It delivers a 1000-fold improvement in sensitivity, detecting previously unknown genetic alterations along with those that are known to researchers. Its ultra-high sensitivity makes it feasible to conduct comprehensive genomic tumor analyses using either tissue or liquid biopsies, as a result of its ability to accurately analyze circulating cell-free DNA shed by the tumor into the blood or other bodily fluids. The high sensitivity of MX-ICP also produces more informative and accurate results from many tumor tissue samples.

Importantly, MX-ICP is platform agnostic-it works on all the sequencing platforms found in labs today, greatly enhancing the sensitivity of next-generation sequencing, Digital PCR, Sanger and other platforms. MX-ICP is easy to use, is highly reliable and is easily implemented, requiring minimal disruption to current sequencing processes or procedures. These qualities should help spur rapid adoption of MX-ICP by a variety of end-users. Developments in 2014 were intended to set the stage for a successful launch and rapid commercialization of the technology beginning in 2015 and included the following events described below.

In October 2014, Transgenomic announced a research agreement with the University of Melbourne to conduct additional clinical validation studies of MX-ICP technology. The new study aims to determine the prevalence and clinical significance of

ultra-low frequency tumor mutations identified by MX-ICP that would otherwise go undetected by Sanger or next generation sequencing. The study is being led by Professor Paul Waring, a recognized leader in molecular pathology. It is intended to further confirm the clinical value of the results uniquely delivered by MX-ICP technology.

Transgenomic further enhanced its intellectual property portfolio protecting ICE COLD technology in 2014. In July 2014, we announced issuance of a new European patent covering ICE COLD-PCR technologies. This expansion of our intellectual property in the European Union strengthens the proprietary coverage of our portfolio of breakthrough DNA amplification technologies that could be transformational for the advancement of personalized, precision cancer therapy. The new patent in Europe followed our announcement in January 2015 that a new key U.S. patent for MX-ICP had been issued, which extends the scope and longevity of our ICE COLD-PCR intellectual property portfolio in the key U.S. market.

The potential of the ICE COLD-PCR technology was highlighted in scientific study materials displayed at the ASCO Annual Meeting in late May, 2014. This is the premier cancer meeting in the world, and the studies provided further validation to attendees of key advantages of ICE COLD-PCR technology. They were conducted by Transgenomic researchers along with scientists at top cancer academic centers, including the University of Texas MD Anderson Cancer Center and the Dana-Farber Cancer Institute.

In May 2014, we acquired rights to a key new feature of the ICE COLD-PCR technology. We announced an exclusive license with the Dana-Farber Cancer Institute for worldwide rights to develop and commercialize multiplexed versions of ICE COLD-PCR technology. The exclusive license covers all fields and applications of the technology, which makes possible the simultaneous detection of multiple DNA mutations from a single blood, urine or tissue sample. Multiplexing is a critical enabling feature that makes ICE COLD-PCR technology far more efficient, which should greatly increase its utility for routine use in the determination and monitoring of cancer therapy and in new drug development.

Another key aspect of our new strategy is to focus resources on our businesses with the highest growth potential, such as patient genetic testing, while redeploying selected assets. In July 2014, we announced that we had entered into an agreement to sell to Integrated DNA Technologies, Inc. (“IDT”) rights to our SURVEYOR Nuclease technology and assets for a minimum of $4.25 million. As part of the agreement, IDT exclusively sublicensed rights for all clinical and diagnostic applications of the technology back to us. This sale to IDT for the non-core research market allows us to focus resources on our core businesses while securing access to the technology for high value clinical and pharmaceutical applications.

In April 2014, we announced an agreement with Raptor Pharmaceutical Corp. to provide genetic testing services for Raptor’s clinical trial evaluating RP103 as a potential treatment for Leigh syndrome and other inherited mitochondrial disorders. This agreement is an example of how we are working with a number of pharmaceutical companies to develop and market complementary genetic tests designed to improve clinical diagnoses and outcomes. Similarly, in January 2014, we announced that we had entered into a collaboration with Horizon Discovery Group plc to develop improved genetic diagnostic tests incorporating state of the art controls. The collaboration was designed to enable us to transition from the use of plasmid-derived controls to Horizon’s Quantitative Molecular Reference Standards. This collaboration is expected to provide strategic opportunities that have the potential to significantly benefit our biomarker identification business.

To provide additional support for the expansion of our core businesses, we recruited two new directors in 2014. In May 2014, we announced John Thompson’s appointment as a director of Transgenomic. Mr. Thompson was an influential strategist and deal maker at top tier life sciences firms such as Invitrogen and Life Technologies. He brings extensive experience in life sciences business development, corporate strategy and mergers and acquisitions to Transgenomic. In March 2014, we announced that Michael A. Luther, Ph.D. had been appointed as a director of

Transgenomic. Dr. Luther has had a distinguished career as a researcher, manager and senior executive at leading life sciences organizations, including major pharmaceutical companies and top tier research services firms. His combination of scientific expertise, practical business experience and effective leadership is expected to contribute significantly to our ongoing strategic transformation. Other personnel changes were announced in November 2014 when Mark Colonnese resigned as our Chief Financial Officer and Executive Vice President of Transgenomic to pursue other interests. Paul Kinnon, our President and Chief Executive Officer, assumed the role of Interim Chief Financial Officer and Leon Richards, our Corporate Controller, took on the additional responsibilities of serving as Chief Accounting Officer.

During 2014, we also strengthened our financial structure, resources and positioning. In January 2014, we effected a 1-for-12 reverse split of our issued and outstanding shares of common stock. In May 2014, we received approval for the listing of our common shares on The NASDAQ Capital Market. The uplisting, which became effective on May 9, 2014, was intended to provide greater visibility, access to capital, and increased share liquidity. Uplisting to the NASDAQ Capital Market represented an important symbolic, as well as practical, step for Transgenomic. During 2014, we augmented our capital resources via completion of a $7.0 million investment agreement, $3.1 million raised from a private placement and convertible note, and the sale of our SURVEYOR business for a minimum of $4.25 million in cash to Transgenomic.

With the foundation for commercialization of MX-ICP largely in place, our Patient Testing business showing new signs of strength and a global team focused on realizing the potential of our product portfolio, we are well positioned to execute our business strategy.

Results of Continuing Operations

Net Sales.

Net sales consisted of the following:

2014 vs. 2013 Dollars in Thousands

	Year Ended December 31,		Change	
	2014	2013	$	%
Laboratory Services	$16,520	$15,391	$1,129	7 %
Genetic Assays and Platforms	10,563	12,153	(1,590)	(13)%
Total net sales	$27,083	$27,544	$(461)	(2)%

Laboratory Services net sales increased $1.1 million during the year ended December 31, 2014 as compared to the same period of 2013. This increase resulted from a 23% increase in patient testing sales due to a number of new products launched in late 2013 and an increase in our core Laboratory Services business. This increase was partially offset by lower sales of our contract laboratory services.

Genetic Assays and Platforms sales during the year ended December 31, 2014 decreased $1.6 million as compared to the same period of 2013 as a result of lower instrument sales and lower bioconsumables sales resulting from the sale of our Surveyor Kits product line during 2014.

2013 vs. 2012 Dollars in Thousands

	Year Ended December 31,		Change	
	2013	2012	$	%
Laboratory Services	$15,391	$19,329	$(3,938)	(20)%
Genetic Assays and Platforms	12,153	12,151	2	— %
Total net sales	$27,544	$31,480	$(3,936)	(13)%

Laboratory Services net sales decreased $3.9 million during the year ended December 31, 2013 as compared to the same period of 2012. Revenue decreased in 2013 compared to 2012 primarily due to overall lower test volumes, primarily in Neurology testing. The decline in revenue was partially offset by higher contract work associated with a collaboration agreement.

Genetic Assays and Platforms net sales during the year ended December 31, 2013 were even with the level achieved in 2012. The slight change in sales was the result of modestly lower instruments sales in 2013, offset by an increase in our sales of bioconsumables.

Costs of Goods Sold.

Costs of goods sold includes material costs for the products that we sell and substantially all other costs associated with our manufacturing facilities (primarily personnel costs, rent and depreciation) as well as the wholesale price we pay manufacturers of OEM Equipment that we distribute. It also includes direct costs (primarily personnel costs, rent, supplies and depreciation) associated with our Laboratory Services operations.

Gross Profit.

Gross profit and gross margins for each of our business segments were as follows:

2014 vs. 2013 Dollars in Thousands

	Year Ended December 31,		Margin %	
	2014	2013	2014	2013
Laboratory Services	$6,840	$6,820	41 %	44 %
Genetic Assays and Platforms	2,881	3,934	27 %	32 %
Gross profit	$9,721	$10,754	36 %	39 %

Gross profit was $9.7 million, or 36% of total net sales, during the year ended December 31, 2014, compared to $10.8 million, or 39% of total net sales, during the same period of 2013. During the year ended December 31, 2014, the gross margin for Laboratory Services was $6.8 million, or 41%, as compared to $6.8 million, or 44%, in the same period of 2013. The gross profit increase for Laboratory Services in 2014 primarily reflects the increased test volumes noted above partially offset by lower profit from our contract laboratory services. Genetic Assays and Platforms gross margin decreased in the year ended December 31, 2014 compared to the same period of 2013 as a result of lower instrument sales and lower gross profit from bioconsumables resulting from the sale of our Surveyor Kits product line during 2014.

2013 vs. 2012 Dollars in Thousands

	Year Ended December 31,		Margin %	
	2013	2012	2013	2012
Laboratory Services	$6,820	$9,316	44 %	48 %
Genetic Assays and Platforms	3,934	3,816	32 %	31 %
Gross profit	$10,754	$13,132	39 %	42 %

Gross profit was $10.8 million, or 39% of total net sales, during the year ended December 31, 2014, compared to $13.1 million, or 42% of total net sales, during the same period of 2012. During the year ended December 31, 2013, the gross margin for Laboratory Services was $6.8 million, or 44%, as compared to $9.3 million, or 48%, in the same period of 2012. The gross profit decline for Laboratory Services primarily reflects the lower test volumes noted above. Lower overall costs were more than offset by the sales decline. Genetic Assays and Platforms gross margin remained consistent in the year ended December 31, 2013 compared to the same period of 2012.

Operating expenses.

The following table summarizes operating expenses further described below for the years ended December 31, 2014, 2013 and 2012:

Dollars in Thousands

	Year Ended December 31,		
	2014	2013	2012
Selling, general and administrative	$24,146	$23,301	$20,145
Research and development	2,897	3,212	2,491
Total	$27,043	$26,513	$22,636

Selling, General and Administrative Expenses.

Selling, general and administrative expenses consist primarily of personnel costs, marketing, travel costs, professional fees, bad debt expense and facility costs. Our selling, general and administrative costs increased to $24.1 million during the year ended December 31, 2014 compared to $23.3 million for the same period in 2013. The increase in selling, general and administrative costs primarily relates to a higher bad debt provision in 2014 as compared to 2013 along with increased professional fees and stock compensation costs. These increases were partially offset by decreased employee salary and benefits costs and lower amortization costs.

Our selling, general and administrative costs increased to $23.3 million during the year ended December 31, 2013 compared to $20.1 million for the same period in 2012. The increase in selling, general and administrative costs primarily relates to a $3.0 million higher bad debt provision in 2013 as compared to 2012. In addition, the increased costs include severance costs in 2013 related to staffing reductions in the second quarter and an executive termination in the third quarter.

Research and Development Expenses.

Research and development expenses include primarily personnel costs, intellectual property legal fees, outside services, collaboration expenses, supplies and facility costs and are expensed in the period in which they are incurred. During the years ended December 31, 2014 and 2013 these costs totaled $2.9 million and $3.2 million, respectively. Research and development expenses totaled 11% and 12% of net sales during the years ended December 31, 2014 and 2013, respectively. The decrease in research and development expenses in 2014 as compared to 2013 includes a decrease in employee salary and benefits costs partially offset by an increase in operating supplies expenses.

During the years ended December 31, 2013 and 2012, research and development expenses totaled $3.2 million and $2.5 million, respectively. Research and development expenses totaled 12% and 8% of net sales during the years ended December 31, 2013 and 2012, respectively. The increase in 2013 as compared to 2012 is due in part to activities related to converting a number of our tests to a more efficient Next Generation Sequencing instrument platform, activities related to our programs validating the use of ICE COLD-PCR, and expanding our portfolio of tests and kits and the platforms on which they are performed.

Other Income (Expense).

The following table summarizes other income (expense) for the years ended December 31, 2014, 2013 and 2012:

	Dollars in Thousands		
	Year Ended December 31,		
	2014	2013	2012
Interest expense	$(665)	$(642)	$(888)
Income from change in fair value of warrants	455	300	2,200
Gain on sale of product line	4,114	—	—
Other, net	—	60	11
Total other income (expense), net	$3,904	$(282)	$1,323

Other income, net for the year ended December 31, 2014 totaled $3.9 million. Other income, net included a $4.1 million gain on the sale of our Surveyor Kits product line during 2014 along with income associated with the change in fair value of the common stock warrants. The income associated with the common stock warrants is a non-cash item. These income items were partially offset by interest expense primarily relating to our debt.

Other expense, net for the year ended December 31, 2013 totaled $0.3 million. Other expense, net included interest expense partially offset by the income associated with the change in fair value of the common stock warrants.

Other income, net for the year ended December 31, 2012 totaled $1.3 million. Other income, net included income associated with the change in fair value of the common stock warrants, partially offset by interest expense.

Income Tax Expense (Benefit).

Income tax expense (benefit) recorded during the years ended December 31, 2014, 2013 and 2012 related to income taxes in states, foreign countries and other local jurisdictions and totaled $0.5 million, $(0.1) million and $0.1 million, respectively. Net income tax expense for the year ended December 31, 2014 included approximately $0.6 million of deferred income tax expense for a deferred tax liability related to the tax deductibility of our goodwill, which is an indefinite-lived asset. We expect this deferred income tax expense to be approximately $0.2 million annually going forward. The effective tax rate for the year ended December 31, 2014 is 3.9%, which is primarily the result of valuation allowances against net operating losses for the United States, partially adjusted by permanent differences related to inter-company foreign currency exchange of our subsidiary outside the United States. The effective tax rates for the years ended December 31, 2013 and 2012 were negative 0.3% and 1.8%, respectively.

We continue to assess the recoverability of deferred tax assets and the related valuation allowance. To the extent we begin to generate taxable income in future periods and determine that such valuation allowance is no longer required,

the tax benefit of the remaining deferred tax assets will be recognized at such time. Our net operating loss carry-forwards of $128.9 million will

expire at various dates from 2018 through 2034, if not utilized. We also had state income tax loss carry-forwards of $46.8 million at December 31, 2014. These carry-forwards will also expire at various dates from 2018 to 2034 if not utilized.

Liquidity and Capital Resources

Our working capital positions at December 31, 2014 and 2013 were as follows (in thousands):

	December 31, 2014	2013	Change
Current assets (including cash and cash equivalents of $1,609 and $1,626 respectively)	$13,432	$11,835	$1,597
Current liabilities	11,115	8,625	(2,490)
Working capital	$2,317	$3,210	$(893)

We entered into an Unsecured Convertible Promissory Note Purchase Agreement (the “Purchase Agreement”), dated December 31, 2014, with an accredited investor (the “Initial Investor”) pursuant to which we issued and sold, on December 31, 2014 (the “Initial Closing”), to the Initial Investor in a private placement an unsecured convertible promissory note (the “Initial Note”) in the aggregate principal amount of $750,000.

Pursuant to the terms of the Purchase Agreement, we entered into the Purchase Agreement with seven additional accredited investors (the “Additional Investors”) on January 15, 2015 and issued and sold to the Additional Investors in a private placement (the “Additional Private Placement”) Additional Notes in an aggregate principal amount of $925,000. Each of the Additional Notes accrues interest at a rate of 6% per year and matures on December 31, 2016. The outstanding principal and unpaid interest accrued under each Additional Note is convertible into shares of common stock of the Company as follows: (i) commencing upon the date of issuance of the Additional Note (but no earlier than January 1, 2015), the Additional Investor holding such Additional Note is entitled to convert, on a one-time basis, up to 50% of the outstanding principal and unpaid interest accrued under the Additional Note, into shares of Common Stock at a conversion price equal to the lesser of (a) the average closing price of the common stock on the Market for the 20 consecutive trading days immediately preceding the date of conversion, and (b) $2.20 (subject to adjustment for stock splits, stock dividends, other distributions, recapitalizations and the like); and (ii) commencing February 15, 2015, the Additional Investor holding such Additional Note is entitled to convert, on a one-time basis, any or all of the remaining outstanding principal and unpaid interest accrued under the Additional Note, into shares of Common Stock at a conversion price equal to 85% of the average closing price of the Common Stock on the Market for the 15 consecutive trading days immediately preceding the date of conversion.

On February 27, 2015, we entered into a purchase agreement with Craig-Hallum Capital Group LLC (the “Underwriter”) pursuant to which we sold 3,573,899 shares of our common stock and corresponding warrants to purchase up to 714,780 shares of common stock. Each share of common stock was sold in combination with a warrant to purchase 0.20 of a share of Common Stock. The purchase price to the public for each share of Common Stock and accompanying warrant was $1.95.

The purchase price paid by the Underwriter to us for the common stock and accompanying warrants was $1.8135. The net proceeds, after deducting the Underwriter’s discount and other estimated expenses, were approximately $6.2 million.

Please see the section entitled "Contractual Obligations and Other Commitments" that follows shortly in this document and Footnote 6 "Debt" to our accompanying consolidated financial statements for additional information regarding our outstanding debt and debt servicing obligations.

At December 31, 2014, we had cash and cash equivalents of $1.6 million. As described above, in January 2015 we received approximately $0.9 million in gross proceeds in connection with the issuance and sale of unsecured convertible promissory notes and in February 2015 we received net proceeds of approximately $6.2 million from the issuance of common stock. Our current operating plan projects improved operating results, improvement in collection rates and monetization of underutilized assets. As with any operating plan, there are risks associated with our ability to execute it. Therefore, there can be no assurance that we will be able to satisfy our obligations, or achieve the operating improvements as contemplated by the current operating plan. If we are unable to execute this plan, we will need to

find additional sources of cash not contemplated by the current operating plan and/or raise additional capital to sustain continuing operations as currently contemplated. We could raise additional funds through various potential sources such as through the sale of assets or sale of debt or equity securities. However, there can be no assurance that the additional funding sources will be available to us at reasonable terms or at all. If we are unable to achieve our operating plan or obtain additional financing, our business would be jeopardized and we may not be able to continue as a going concern.

Analysis of Cash Flows

The following table presents a summary of our cash flows:

	(amounts in thousands)		
	2014	2013	2012
Net cash provided by (used in):			
Operating activities	$(13,702)	$(8,473)	$(10,204)
Investing activities	3,625	(1,766)	(4,878)
Financing activities	10,070	7,370	14,604
Effect of exchange rates on cash	(10)	(2)	29
Net decrease in cash and cash equivalents	$(17)	$(2,871)	$(449)

Net Decrease in Cash and Cash Equivalents. Cash and cash equivalents decreased by $0.0 million, $2.9 million and $0.4 million for the periods ended December 31, 2014, 2013 and 2012, respectively.

Cash Flows Used In Operating Activities. We used cash for operating activities of $13.7 million, $8.5 million and $10.2 million during 2014, 2013 and 2012, respectively. In 2014, cash flows used in operating activities of $13.7 million reflects the Company's net loss of $13.9 million and an increase in accounts receivable of $8.5 million as a result of higher fourth quarter sales in 2014 as compared to 2013 along higher levels of past due receivables in Laboratory Services. These were offset by an increase in accounts payable of $2.0 million and increases in non-cash items, including the provision for losses on doubtful accounts of $6.1 million, stock compensation expense of $0.9 million and depreciation and amortization of $2.2 million. During 2013, the cash flows used in operating activities of $8.5 million includes our cash loss from operations and an increase in accounts receivable of $2.8 million as a result of a slow-down in collections in Laboratory Services and high fourth quarter shipments in Genetic Assays and Platforms. A decrease in inventory of $1.1 million related to higher instrument sales and better inventory management partially offset the operating use. In 2012, the cash used in operating activities of $10.2 million includes an increase in accounts receivable of $2.9 million related to higher levels of past due receivables and an increase in inventories of $1.4 million to purchase additional OEM instruments in anticipation of future sales, coupled with the cash loss from operations.

Cash Flows Provided By (Used In) Investing Activities. Cash flows provided by investing activities totaled $3.6 million for the year ended December 31, 2014 and included proceeds from the sale of our Surveyor Kits product line of $3.8 million, partially offset by purchases of property and equipment of $0.1 million. During 2013, we utilized $1.8 million of cash for investing activities, primarily related to additions to property, plant and equipment and patents of $0.9 million and a final payment related to the 2012 acquisition of $0.9 million. During 2012, we acquired the intangible assets of ScoliScore™ for $4.4 million, $3.6 million of which we paid in 2012. In 2012, we also recorded purchases of property and equipment totaling $0.9 million.

Cash Flows Provided By Financing Activities. Cash flows provided by financing activities for the year ended December 31, 2014 included proceeds from the issuance of Series B Convertible Preferred Stock of $6.9 million, net proceeds of $2.4 million from the October 2014 issuance of common stock and proceeds of $0.8 million from the issuance of an unsecured convertible promissory note in December 2014. These proceeds were partially offset by payments on our capital lease obligations. During 2013, we recorded net proceeds from a private placement with institutional and accredited investors of $7.6 million, received proceeds from borrowings of $6.6 million and recorded principal payments of $6.2 million to settle the PGxHealth note payable. During 2012, we recorded net proceeds from a private placement with institutional and accredited investors of $17.5 million and recorded principal payments on notes payable totaling $2.6 million.

Contractual Obligations and Other Commitments

At December 31, 2014, our contractual obligations and other commitments were as follows:

	(Amounts in thousands)						
	2015	2016	2017	2018	2019	After 2019	Total
Long term debt[(1)]	$462	$7,375	$—	$—	$—	$—	$7,837
Interest[(1)]	506	306	—	—	—	—	812

Capital lease obligations[2]	35	3	1	—	—	—	39
Operating lease obligations[3]	1,032	927	763	485	235	628	4,070
Purchase obligations[4]	675	—	—	—	—	—	675
	$2,710	$8,611	$764	$485	$235	$628	$13,433

(1) See Footnote 6 - "Debt" to our accompanying consolidated financial statements.
(2) See Footnote 7 - "Capital Leases" to our accompanying consolidated financial statements.
(3) These amounts represent non-cancellable operating leases for equipment, vehicles and operating facilities
(4) These amounts represent purchase commitments, including all open purchase orders

At December 31, 2014, we had unrecognized tax benefits of $0.1 million. A reasonable estimate of the timing related to the $0.1 million is not possible.

Off Balance Sheet Arrangements
At December 31, 2014 and 2013, we did not have any off-balance sheet arrangements that have or are reasonably likely to have a current or future effect on our financial condition, changes in financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources.

Critical Accounting Policies
Accounting policies used in the preparation of the consolidated financial statements may involve the use of management judgments and estimates. Certain of our accounting policies are considered critical as they are both important to the portrayal of our financial statements and require significant or complex judgments on the part of management. The preparation of consolidated financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of net sales and expenses during the reported period. In addition, estimates and assumptions associated with the determination of the fair value of certain assets and related impairments require considerable judgment by management. Our judgments and estimates are based on experience and assumptions that we believe are reasonable under the circumstances. Further, we evaluate our judgments and estimates from time to time as circumstances change. Actual financial results based on judgments or estimates may vary under different assumptions or circumstances. The following are certain critical accounting policies that may involve the use of judgments or estimates.

Allowance for Doubtful Accounts and Contractual Allowances.
While payment terms are generally 30 days, we have also provided extended payment terms of up to 90 days in certain cases. We operate globally and some of the international payment terms can be greater than 90 days. Accounts receivable are carried at original invoice amount and shown net of allowance for doubtful accounts and contractual allowances. The estimate made for doubtful accounts is based on a review of all outstanding amounts on a quarterly basis. The estimate for contractual allowances is based on contractual terms or historical reimbursement rates and is recorded when revenue is recorded. We determine the allowance for doubtful accounts and contractual allowances by regularly evaluating individual payor receivables and considering a payor's financial condition, credit history, reimbursement rates and current economic conditions. Accounts receivable are written off when deemed uncollectible and after all collection efforts have been exhausted. Recoveries of accounts receivable previously written off are recorded as a reduction in bad debt expense when received.

Inventories.
Inventories are stated at the lower of cost or market net of allowance for obsolete and slow moving inventory. Cost is computed using standard costs for finished goods and average or latest actual cost for raw materials and work in process, which approximates the first-in, first-out (FIFO) method. We write down slow-moving and obsolete inventory by the difference between the value of the inventory and our estimate of the reduced value based on potential future uses, the likelihood that overstocked inventory will be sold and the expected selling prices of the inventory. If our ability to realize value on slow-moving or obsolete inventory is less favorable than assumed, additional write-downs of the inventory may be required.

Property and Equipment.

Property and equipment are carried at cost. Depreciation is computed by the straight-line method over the estimated useful lives of the related assets.

Goodwill.
Goodwill is tested for impairment annually utilizing a weighted combination of income and market approaches. The income approach applies a discounted cash flow methodology to the Company's future period projections and the more heavily weighted market approach uses market available information on the Company. We perform this impairment analysis during the fourth quarter of each year or when a significant event occurs that may impact goodwill. Impairment may occur when the carrying value of the reporting unit exceeds its fair value. If the carrying value of the reporting unit exceeds its fair value, the fair value of all identifiable

tangible and intangible assets and liabilities is determined as part of a hypothetical purchase price allocation to determine the amount of goodwill impairment. No impairment of goodwill has occurred to date.

Intangible Assets.
Intangible assets include intellectual property, patents and acquired products. At December 31, 2013, the Company revised its estimate of useful lives on certain intangible assets, which decreased amortization expense in 2014 by $0.4 million.
1. Intellectual Property. Initial costs paid to license intellectual property from independent third parties are capitalized and amortized using the straight-line method over the license period. Ongoing royalties related to such licenses are expensed as incurred.
2. Patents. We capitalize legal costs, filing fees and other expenses associated with obtaining patents on new discoveries and amortize these costs using the straight-line method over the shorter of the legal life of the patent or its economic life beginning on the date the patent is issued.
3. Acquired Products. As a part of the FAMILION acquisition and acquisition of certain intangible assets from Axial, we acquired technology, in process technology, trademarks/tradenames, customer relationships, covenants not to compete and third party relationships. These costs will be amortized pursuant to the straight-line method over their estimated economic life of seven to ten years. See Footnote 5 "Intangibles and Other Assets" to our accompanying consolidated financial statements.
We review our amortizable long lived assets for impairment whenever events indicate that the carrying amount of the asset (group) may not be recoverable. An impairment loss may be needed if the sum of the future undiscounted cash flows is less than the carrying amount of the asset (group). The amount of the loss would be determined by comparing the fair market value of the asset to the carrying amount of the asset (group). No loss has been recorded during the years ended December 31, 2014, 2013 or 2012.

Common Stock Warrants.
Our issued and outstanding 2012 warrants to purchase common stock do not qualify to be treated as equity, and accordingly, are recorded as a liability ("Common Stock Warrant Liability"). The Common Stock Warrant Liability was initially recorded at fair value using a Monte Carlo simulation model. We are required to present these instruments at fair value at each reporting date and any changes in fair values are recorded as an adjustment to earnings. The Common Stock Warrant Liability is considered a level three financial instrument. See Footnote 13 "Fair Value" to our accompanying consolidated financial statements.

Stock Based Compensation.
All stock-based awards to date have exercise prices equal to the market price of our common stock on the date of grant and have ten-year contractual terms. Unvested awards as of December 31, 2014 had vesting periods of one or three years from date of grant. None of the stock awards outstanding at December 31, 2014 are subject to performance or market-based vesting conditions.
We measure and recognize compensation expense for all stock-based awards made to employees and directors, including stock options. Compensation expense is based on the calculated fair value of the awards as measured at the grant date for stock options and for Stock Appreciation Rights ("SAR") is based on the calculated mark-to-market value of the awards at quarter end, with both expensed over the service period of the awards. The values are determined using the Black-Scholes methodology.

Income Taxes.
Deferred tax assets and liabilities are determined based on the differences between the financial reporting and tax basis of assets and liabilities at each balance sheet date using tax rates expected to be in effect in the year the differences are expected to reverse. Deferred tax assets are reduced by a valuation allowance to the extent that it is more likely than not that they will not be realized. Our liability for uncertain tax positions was $0.1 million and $0.3 million as of December 31, 2014 and 2013, respectively. We recorded less than $0.1 million of additional uncertain

tax positions during each of the years ended 2014 and 2013. We recorded $0.2 million and zero for reductions in uncertain tax positions relating to statute of limitations lapse for the years ended 2014 and 2013, respectively. We had no material interest or penalties during fiscal 2014 or fiscal 2013, and we do not anticipate any such items during the next twelve months. Our policy is to record interest and penalties directly related to income taxes as income tax expense in the Consolidated Statements of Operations.

Net Sales Recognition.
Revenue is realized and earned when all of the following criteria are met:

- Persuasive evidence of an arrangement exists;
- Delivery has occurred or services have been rendered;
- The seller’s price to the buyer is fixed or determinable; and
- Collectability is reasonably assured.

In Laboratory Services, net sales from Patient Testing labs are recognized on an individual test basis and take place when the test report is completed, reviewed and sent to the client less the reserve for insurance, Medicare and Medicaid contractual adjustments. There are no deferred net sales associated with our Patient Testing services. Adjustments to the allowances, based on actual receipts from third party payers, are reflected in the estimated contractual allowance applied prospectively. In our Biomarker Identification labs, we perform services on a project by project basis. When we receive payment in advance, we recognize revenue when we deliver the service. These projects typically do not extend beyond one year.

Net sales of Genetic Assays and Platforms products are recognized in accordance with the terms of the sales arrangement. Such recognition is based on receipt of an unconditional customer order and transfer of title and risk of ownership to the customer, typically upon shipment of the product under a purchase order. Our sales terms do not provide for the right of return unless the product is damaged or defective. Net sales from certain services associated with the analytical instruments, to be performed subsequent to shipment of the products, is deferred and recognized when the services are provided. Such services, mainly limited to installation and training services that are not essential to the functionality of the instruments, typically are performed in a timely manner subsequent to shipment of the instrument. We also enter into various service contracts that cover installed instruments. These contracts cover specific time periods and net sales associated with these contracts are deferred and recognized ratably over the service period.

Taxes collected from customers and remitted to government agencies for specific net sales producing transactions are recorded net with no effect on the income statement.

Research and Development.

Research and development and various collaboration costs are charged to expense when incurred.

Translation of Foreign Currency.

Our foreign subsidiary uses the local currency of the country in which it is located as its functional currency. Its assets and liabilities are translated into U.S. dollars at the exchange rates in effect at the balance sheet date. Revenues and expenses are translated at the average rates during the period.

Comprehensive Income.

Accumulated other comprehensive income at December 31, 2014, 2013 and 2012 consisted of foreign currency translation adjustments.

Loss Per Share.

Basic earnings per share is calculated based on the weighted-average number of common shares outstanding during each period. Diluted earnings per share include shares issuable upon exercise of outstanding stock options, warrants or conversion rights that have exercise or conversion prices below the market value of our common stock.

Recent Accounting Pronouncements

In April 2014, the Financial Accounting Standards Board (“FASB”) issued Accounting Standards Update (“ASU”) No. 2014-08, Presentation of Financial Statements (Topic 205) and Property, Plant, and Equipment (Topic 360): Reporting Discontinued Operations and Disclosures of Disposals of Components of an Entity, which changes the criteria for reporting a discontinued operation. Under this standard, a disposal of part of an organization that has a major effect on its operations and financial results is a discontinued operation. This guidance is effective prospectively for us beginning January 1, 2015 with earlier application permitted, but only for disposals (or classifications as held for sale) that have not been reported previously. When adopted, we do not expect that this guidance will have a material impact on our financial condition, results of operations or cash flows.

In May 2014, the FASB issued ASU 2014-09, Revenue from Contracts with Customers. This guidance requires an entity to recognize the amount of revenue to which it expects to be entitled for the transfer of promised goods or

services to a customer. This ASU will replace most existing revenue recognition guidance in generally accepted accounting principles in the U.S. when it becomes effective on January 1, 2017. Early application is not permitted, but the standard permits the use of either the retrospective or cumulative effect transition method. We have not selected a transition method and are currently evaluating the impact this guidance will have on our financial condition, results of operations and cash flows.

In August 2014, the FASB issued ASU 2014-15, Presentation of Financial Statements - Going Concern (Subtopic 205-40). The new guidance addresses management’s responsibility to evaluate whether there is substantial doubt about an entity’s ability to continue as a going concern and to provide related footnote disclosures. The standard will be effective for the first interim period within annual reporting periods beginning after December 15, 2016. Early adoption is permitted. We do not expect to early adopt

this guidance and do not believe that the adoption of this guidance will have a material impact on our consolidated financial statements.

Impact of Inflation

We do not believe that inflation has had a material effect on our current business, financial condition or results of operations. If our costs were to become subject to significant inflationary pressures, for example, if the cost of our materials or the cost of shipping our products to customers were to incur substantial increases as a result of the rapid rise in the cost of oil, we may not be able to fully offset such higher costs through price increases. Our inability or failure to do so could harm our business, financial condition and results of operations.

Item 7A. Quantitative and Qualitative Disclosure about Market Risk.

We are a smaller reporting company, as defined by Rule 12b-2 of the Securities Exchange Act of 1934, as amended, and are not required to provide the information required under this item.

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders
Transgenomic, Inc.

We have audited the accompanying consolidated balance sheets of Transgenomic, Inc. and Subsidiary (the Company) as of December 31, 2014 and 2013, and the related consolidated statements of operations, comprehensive loss, stockholders' equity and cash flows for each of the two years in the period ended December 31, 2014. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. We were not engaged to perform an audit of the Company's internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of Transgenomic, Inc. and Subsidiary at December 31, 2014 and 2013, and the consolidated results of their operations and their cash flows for each of the two years in the period ended December 31, 2014, in conformity with U.S. generally accepted accounting principles.

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 1 to the financial statements, the Company has recurring losses from operations that raise substantial doubt about its ability to continue as a going concern. Management's plans in regard to these matters are also described in Note 1. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

/s/ Ernst & Young LLP

Hartford, Connecticut
April 15, 2015

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders
Transgenomic, Inc.

We have audited the accompanying consolidated statements of operations, comprehensive loss, stockholders' equity, and cash flows of Transgenomic, Inc. and Subsidiary for the year ended December 31, 2012. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the 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. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the results of operations and cash flows of Transgenomic, Inc. and Subsidiary for the year ended December 31, 2012, in conformity with U.S. generally accepted accounting principles.

/s/ McGladrey LLP

Omaha, Nebraska
March 14, 2013

TRANSGENOMIC, INC. AND SUBSIDIARY
CONSOLIDATED BALANCE SHEETS
December 31, 2014 and 2013
(Dollars in thousands except per share data)

	2014	2013
ASSETS		
CURRENT ASSETS:		
Cash and cash equivalents	$1,609	$1,626
Accounts receivable (net of allowances for doubtful accounts of $7,947 and $3,838, respectively)	7,627	5,314
Inventories (net of allowances of $628 and $799, respectively)	3,005	3,957
Other current assets	1,191	938
Total current assets	13,432	11,835
PROPERTY AND EQUIPMENT:		
Equipment	11,369	11,255
Furniture, fixtures & leasehold improvements	3,877	3,874
	15,246	15,129
Less: accumulated depreciation	(13,764)	(13,126)
	1,482	2,003
OTHER ASSETS:		
Goodwill	6,918	6,918
Intangibles (net of accumulated amortization of $5,970 and $4,598, respectively)	7,964	9,195
Other assets	210	327
	$30,006	$30,278
LIABILITIES AND STOCKHOLDERS' EQUITY		
CURRENT LIABILITIES:		
Current maturities of long term debt	$462	$242
Accounts payable	4,871	2,860
Accrued compensation	1,129	1,330
Accrued expenses	2,550	2,037
Deferred revenue	1,035	1,088
Other current liabilities	1,068	1,068
Total current liabilities	11,115	8,625
LONG TERM LIABILITIES:		
Long term debt less current maturities	7,375	6,318
Common stock warrant liability	145	600
Other long-term liabilities	1,688	1,303
Accrued preferred stock dividend	3,130	1,986
Total liabilities	23,453	18,832
STOCKHOLDERS' EQUITY:		
Preferred stock, $.01 par value, 15,000,000 shares authorized, 4,029,502 and 2,586,205 shares issued and outstanding, respectively	40	26
Common stock, $.01 par value, 150,000,000 shares authorized, 8,084,471 and 7,353,695 shares issued and outstanding, respectively (1)	81	73
Additional paid-in capital (1)	189,680	179,459
Accumulated other comprehensive income	340	390
Accumulated deficit	(183,588)	(168,502)
Total stockholders' equity	6,553	11,446

	$30,006	$30,278

(1) The common stock shares and additional paid-in capital for all periods presented reflect the one-for-twelve reverse stock split which took effect on January 27, 2014.

See notes to consolidated financial statements.

TRANSGENOMIC, INC. AND SUBSIDIARY
CONSOLIDATED STATEMENTS OF OPERATIONS
Years Ended December 31, 2014, 2013 and 2012
(Dollars in thousands except per share data)

	2014	2013	2012
NET SALES	$27,083	$27,544	$31,480
COST OF GOODS SOLD	17,362	16,790	18,348
Gross profit	9,721	10,754	13,132
OPERATING EXPENSES:			
Selling, general and administrative	24,146	23,301	20,145
Research and development	2,897	3,212	2,491
	27,043	26,513	22,636
LOSS FROM OPERATIONS	(17,322)	(15,759)	(9,504)
OTHER INCOME (EXPENSE):			
Interest expense, net	(665)	(642)	(888)
Warrant revaluation	455	300	2,200
Gain on sale of product line	4,114	—	—
Other, net	—	60	11
	3,904	(282)	1,323
LOSS BEFORE INCOME TAXES	(13,418)	(16,041)	(8,181)
INCOME TAX EXPENSE (BENEFIT)	524	(54)	146
NET LOSS	$(13,942)	$(15,987)	$(8,327)
PREFERRED STOCK DIVIDENDS AND ACCRETION	(1,144)	(726)	(660)
NET LOSS AVAILABLE TO COMMON STOCKHOLDERS	$(15,086)	$(16,713)	$(8,987)
BASIC AND DILUTED LOSS PER COMMON SHARE (1)	$(2.01)	$(2.30)	$(1.55)
BASIC AND DILUTED WEIGHTED AVERAGE SHARES OF COMMON STOCK OUTSTANDING (1)	7,493,844	7,266,642	5,794,785

(1) Net loss per share and the number of shares used in the per share calculations for all periods presented reflect the one-for-twelve reverse stock split which took effect on January 27, 2014.

See notes to consolidated financial statements.

TRANSGENOMIC, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS
Years Ended December 31, 2014, 2013 and 2012
(Dollars in thousands)

	2014	2013	2012
Net Loss	$(13,942)	$(15,987)	$(8,327)
Other Comprehensive Loss; foreign currency translation adjustment, net of tax	(50)	(45)	99
Comprehensive Loss	$(13,992)	$(16,032)	$(8,228)

See notes to consolidated financial statements.

TRANSGENOMIC, INC. AND SUBSIDIARY
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
Years Ended December 31, 2014, 2013 and 2012
(Dollars in thousands except share data)

	Preferred Stock		Common Stock					
	Outstanding Shares	Par Value	Outstanding Shares (1)	Par Value (1)	Additional Paid-in Capital (1)	Accumulated Deficit	Accumulated Other Comprehensive Income (Loss)	Total
Balance, December 31, 2011	2,586,205	$26	4,135,478	$46	$153,442	$ (142,802)	$ 336	$11,048
Net loss	—	—	—	—	—	(8,327)		(8,327)
Foreign currency translation adjustment	—	—	—	—	—	—	99	99
Non-cash stock-based compensation	—	—	—	—	731	—	—	731
Issuance of shares of common stock	—	—	1,667	—	10	—	—	10
Private placement, net	—	—	1,833,333	18	17,355	—	—	17,373
Dividends on preferred stock	—	—	—	—	—	(660)	—	(660)
Balance, December 31, 2012	2,586,205	$26	5,970,478	$64	$171,538	$ (151,789)	$ 435	$20,274
Net loss	—	—	—	—	—	(15,987)		(15,987)
Foreign currency translation adjustment	—	—	—	—	—	—	(45)	(45)
Non-cash stock-based compensation	—	—	—	—	360	—	—	360
Private Placement, net	—	—	1,383,217	14	7,556	—	—	7,570
Other	—	—	—	(5)	5	—	—	—
Dividends on preferred stock	—	—	—	—	—	(726)	—	(726)
Balance, December 31, 2013	2,586,205	$26	7,353,695	$73	$179,459	$ (168,502)	$ 390	$11,446
Net loss	—	—	—	—	—	(13,942)		(13,942)
Foreign currency translation adjustment	—	—	—	—	—	—	(50)	(50)
Non-cash stock-based compensation	—	—	—	—	977	—	—	977
	—		730,776	8	2,353			2,361

Private Placement, net								
Preferred stock agreement	1,443,297	14	—	—	6,891	—	—	6,905
Dividends on preferred stock	—	—	—	—	—	(1,144)	—	(1,144)
Balance, December 31, 2014	4,029,502	$40	8,084,471	$81	$189,680	$ (183,588)	$ 340	$6,553

(1) The common stock shares and additional paid-in capital for all periods presented reflect the one-for-twelve reverse stock split which took effect on January 27, 2014.

See notes to consolidated financial statements.

TRANSGENOMIC, INC. AND SUBSIDIARY
CONSOLIDATED STATEMENTS OF CASH FLOWS
Years Ended December 31, 2014, 2013 and 2012
(Dollars in thousands)

	2014	2013	2012
CASH FLOWS USED IN OPERATING ACTIVITIES:			
Net loss	$(13,942)	$(15,987)	$(8,327)
Adjustments to reconcile net loss to net cash flows used in operating activities:			
Depreciation and amortization	2,248	2,748	2,278
Non-cash, stock based compensation	939	462	731
Provision for losses on doubtful accounts	6,119	5,548	2,468
Provision for losses on inventory obsolescence	61	217	129
Warrant revaluation	(455)	(300)	(2,200)
Loss on disposal of fixed assets	—	9	23
Deferred interest	330	—	—
Deferred income taxes	631	—	—
Gain on sale of product line	(4,114)	—	—
Other	—	(62)	—
Changes in operating assets and liabilities, net of acquisitions:			
Accounts receivable	(8,488)	(2,757)	(2,913)
Inventories	715	908	(1,373)
Prepaid expenses and other current assets	(50)	122	(209)
Accounts payable	2,029	801	(576)
Accrued expenses and other liabilities	275	(182)	(235)
Net cash flows used in operating activities	(13,702)	(8,473)	(10,204)
CASH FLOWS PROVIDED BY (USED IN) INVESTING ACTIVITIES:			
Acquisitions	—	(849)	(3,551)
Purchase of property and equipment	(130)	(605)	(882)
Purchase of short term investments	—	—	(8,994)
Proceeds from the sale of short term investments	—	—	8,994
Proceeds from sale of product line	3,800	—	—
Change in other assets	(45)	(312)	(445)
Net cash flows provided by (used in) investing activities	3,625	(1,766)	(4,878)
CASH FLOWS PROVIDED BY FINANCING ACTIVITIES:			
Proceeds from note payable	7,190	6,560	—
Principal payments on capital lease obligations	(144)	(348)	(328)
Payment of deferred financing costs	—	(241)	—
Issuance of preferred stock, net	6,906	—	—
Issuance of common stock and related warrants, net	2,360	7,570	17,483
Principal payments on note payable	(6,242)	(6,171)	(2,551)
Net cash flows provided by financing activities	10,070	7,370	14,604
EFFECT OF FOREIGN CURRENCY EXCHANGE RATE CHANGES ON CASH	(10)	(2)	29
NET CHANGE IN CASH AND CASH EQUIVALENTS	(17)	(2,871)	(449)
CASH AND CASH EQUIVALENTS AT BEGINNING OF PERIOD	1,626	4,497	4,946
CASH AND CASH EQUIVALENTS AT END OF PERIOD	$1,609	$1,626	$4,497

SUPPLEMENTAL CASH FLOW INFORMATION			
Cash paid during the period for:			
Interest	$229	$724	$964
Income taxes, net	—	9	123
SUPPLEMENTAL DISCLOSURE OF NON-CASH INFORMATION			
Acquisition of equipment through capital leases	$—	$—	$175
Dividends accrued on preferred stock	1,144	726	660
Note payable converted to Equity	—	—	3,000
Acquisition of intangibles	—	—	849

See notes to consolidated financial statements.

TRANSGENOMIC, INC. AND SUBSIDIARY
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
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1. BUSINESS DESCRIPTION

Business Description.

Transgenomic, Inc. (“we”, “us”, “our”, the “Company” or “Transgenomic”) is a global biotechnology company advancing personalized medicine for the detection and treatment of cancer and inherited diseases through its proprietary molecular technologies and world-class clinical and research services. A key goal is to bring our Multiplexed ICE COLD-PCR (“MX-ICP”) product to the clinical market rapidly through strategic licensing agreements, enabling the use of blood and other bodily fluids for more effective and patient-friendly diagnosis, monitoring and treatment of cancer.

MX-ICP is a simple, proprietary chemistry that amplifies the ability to detect genetic mutations by 100 - 400 fold. This chemistry has been validated internally on all currently available sequencing platforms, including Sanger, Next Gen Sequencing and Digital PCR. By enhancing the level of detection of genetic mutations and suppressing the normal, “wild-type” DNA, several benefits are provided. It is generally understood that most current technologies are unable to consistently identify mutations that occur in less than approximately 5% of a sample. However, many mutations found at much lower levels, even down to 0.01% are known to be clinically relevant and can have significant consequences to a patient: both in terms of how they will respond to a given drug or treatment and how a given tumor is likely to change over time. More importantly, in our view, significantly improving the level of detection while using blood, saliva and even urine as a source for DNA, rather than depending on painful, expensive and potentially dangerous tumor biopsies, is an important advancement in patient care with respect to cancer detection, treatment and monitoring of the disease and can result in significant cost savings for the healthcare system by replacing invasive procedures with the simple collection of blood or other bodily fluid. By broadening the types of samples that can be used for testing and allowing all sequencing platforms to provide improved identification of low level mutations, MX-ICP has the potential to make testing much more patient friendly, enable genetic monitoring of disease progression and more effectively guide treatment protocols, and reduce the overall cost of diagnosis and monitoring while also improving patient outcomes.

Currently, our operations are organized and reviewed by management along its major product lines and presented in the following two business segments;

- Laboratory Services. Our laboratories specialize in genetic testing for cardiology, neurology and mitochondrial disorders, and for oncology. Our Patient Testing laboratories located in New Haven, Connecticut and Omaha, Nebraska are certified under the Clinical Laboratory Improvement Amendment (“CLIA”) as high complexity laboratories and our Omaha facility is accredited by the College of American Pathologists. Our Biomarker Identification laboratory located in Omaha provides pharmacogenomics research services supporting Phase II and Phase III clinical trials conducted by pharmaceutical and biotechnology companies. Our laboratories employ a variety of genomic testing service technologies, including our new, high performance MX-ICP technology. ICE COLD-PCR is a proprietary ultra-high sensitivity platform technology with breakthrough potential to enable wide adoption of personalized, precision medicine in cancer and other diseases. It can be run in any laboratory that contains standard PCR systems. MX-ICP enables detection of multiple known and unknown mutations from virtually any sample type, including tissue biopsies, blood, urine, saliva, cell-free DNA (“cfDNA”) and circulating tumor cells (“CTCs”) at levels greater than 1,000-fold higher than standard DNA sequencing techniques. It is easy to implement and use within existing workflows.
- Genetic Assays and Platforms. Our proprietary product in this business segment is the WAVE® System, which has broad applicability to genetic variation detection in both molecular genetic research and molecular diagnostics. We also distribute bio-instruments produced by other manufacturers (“OEM Equipment”) through our sales and distribution

network. Service contracts to maintain installed systems are sold and supported by our technical support personnel. The installed WAVE base and some OEM Equipment platforms generate a demand for consumables that are required for the continued operation of the bio-instruments. We develop, manufacture and sell these consumable products. In addition, we manufacture and sell consumable products that can be used on multiple, independent platforms. These products include a range of chromatography columns.

Going Concern

The consolidated financial statements have been prepared using accounting principles generally accepted in the United States of America applicable for a going concern which assumes that the Company will realize its assets and discharge its liabilities in the ordinary course of business. The Company has incurred substantial operating losses and has used cash in its operating activities for the past few years. As of December 31, 2014, the Company had working capital of approximately $2.3 million. During the

first quarter of 2015, the Company received net proceeds of approximately $7.1 million from the issuance and sale of unsecured convertible promissory notes and issuance of common stock. Including the recent financing, the Company's ability to continue as a going concern is dependent upon a combination of generating additional revenue, improving cash collections, potentially selling underutilized assets and, if needed, raising necessary financing to meet its obligations and pay its liabilities arising from normal business operations when they come due. The outcome of these matters cannot be predicted with any certainty at this time and raises substantial doubt that the Company will be able to continue as a going concern. These consolidated financial statements do not include any adjustments to the amounts and classification of assets and liabilities that may be necessary should the Company be unable to continue as a going concern. The Company cannot be certain that additional financing will be available on acceptable terms, or at all, and its failure to raise capital when needed could limit its ability to continue its operations.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Principles of Consolidation.

The consolidated financial statements include the accounts of Transgenomic, Inc. and its wholly owned subsidiary. All inter-company balances and transactions have been eliminated in consolidation.

Risks and Uncertainties.

Certain risks and uncertainties are inherent in the Company's our day-to-day operations and to the process of preparing our financial statements. The more significant of those risks are presented below and throughout the notes to the financial statements.

Use of Estimates.

The preparation of consolidated financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of net sales and expenses during the reporting period. In addition, estimates and assumptions associated with the determination of the fair value of certain assets and related impairments require considerable judgment by management. The key estimates included in the consolidated financial statements include stock option valuations, goodwill and intangible valuations, accounts receivable and inventory valuations, warrant valuations and contractual allowances. Actual results could differ from the estimates and assumptions used in preparing these consolidated financial statements.

Basis of Presentation.

On January 15, 2014, the Board of Directors of the Company approved a reverse split of the Company's common stock, par value $0.01, at a ratio of one-for twelve. This reverse stock split became effective on January 27, 2014 and, unless otherwise indicated, all share amounts, per share data, share prices, exercise prices and conversion rates set forth in these notes and the accompanying consolidated financial statements have, where applicable, been adjusted retroactively to reflect this reverse stock split.

Reclassifications.

Certain prior period amounts of selling, general and administrative expenses have been reclassified to cost of goods sold in order to conform to the current period presentation. These reclassifications had no effect on previously reported net earnings. The amounts reclassified were $1.7 million and $1.9 million for the years ended December 31, 2013 and 2012, respectively.

Fair Value.

Unless otherwise specified, book value approximates fair market value. The Company's Level 1 financial instruments include cash and cash equivalents. The Company's Level 3 financial instruments include the common stock warrant liability, preferred stock warrant liability and conversion feature, and debt. Due to its variable interest component, debt approximates fair value. The common stock warrant liability and Series A Convertible Preferred Stock ("Series A

Preferred Stock") warrant liability and conversion feature are recorded at fair value. See Footnote 13 "Fair Value".

Cash and Cash Equivalents.

Cash and cash equivalents include cash and investments with original maturities at the date of acquisition of three months or less. Such investments presently consist of temporary overnight investments.

Concentrations of Cash.

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From time to time, we may maintain a cash position with financial institutions in amounts that exceed federally insured limits. We have not experienced any losses on such accounts as of December 31, 2014.

Accounts Receivable.

The following is a summary of activity for the allowance for doubtful accounts during the years ended December 31, 2014, 2013 and 2012:

	Dollars in Thousands			
	Beginning Balance	Provision	Write Offs	Ending Balance
Twelve months ended December 31, 2014	$3,838	$6,119	$(2,010)	$7,947
Twelve months ended December 31, 2013	$2,171	$5,548	$(3,881)	$3,838
Twelve months ended December 31, 2012	$1,088	$2,468	$(1,385)	$2,171

While payment terms are generally 30 days, we have also provided extended payment terms of up to 90 days in certain cases. We operate globally and some of the international payment terms can be greater than 90 days. Accounts receivable are carried at original invoice amount and shown net of allowance for doubtful accounts and contractual allowances. The estimate made for doubtful accounts is based on a review of all outstanding amounts on a quarterly basis. The estimate for contractual allowances is based on contractual terms or historical reimbursement rates and is recorded when revenue is recorded. We determine the allowance for doubtful accounts and contractual allowances by regularly evaluating individual payor receivables and considering a payor’s financial condition, credit history, reimbursement rates and current economic conditions. Accounts receivable are written off when deemed uncollectible and after all collection efforts have been exhausted. Recoveries of accounts receivable previously written off are recorded as a reduction in bad debt expense when received.

Inventories.

Inventories are stated at the lower of cost or market net of allowance for obsolete and slow moving inventory. Cost is computed using standard costs for finished goods and average or latest actual cost for raw materials and work in process, which approximates the first-in, first-out (FIFO) method. We write down slow-moving and obsolete inventory by the difference between the value of the inventory and our estimate of the reduced value based on potential future uses, the likelihood that overstocked inventory will be sold and the expected selling prices of the inventory. If our ability to realize value on slow-moving or obsolete inventory is less favorable than assumed, additional write-downs of the inventory may be required.

The following is a summary of activity for the allowance for obsolete inventory during the years ended December 31, 2014, 2013 and 2012:

	Dollars in Thousands			
	Beginning Balance	Provision	Write Offs	Ending Balance
Twelve months ended December 31, 2014	$799	$61	$(232)	$628
Twelve months ended December 31, 2013	$616	$217	$(34)	$799
Twelve months ended December 31, 2012	$511	$129	$(24)	$616

We determine the allowance for obsolescence by evaluating inventory quarterly for items deemed to be slow moving or obsolete.

Property and Equipment.

Property and equipment are carried at cost. Depreciation is computed by the straight-line method over the estimated useful lives of the related assets as follows:

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Leasehold improvements	1 to 10 years
Furniture and fixtures	3 to 7 years
Production equipment	3 to 7 years
Computer equipment	3 to 7 years
Research and development equipment	2 to 7 years

Depreciation expense related to property and equipment during the years ended December 31, 2014, 2013 and 2012 was $0.5 million, $0.6 million and $0.7 million, respectively. Included in depreciation for each of the years ended December 31, 2014, 2013 and 2012 was $0.3 million related to equipment acquired under capital leases.

Goodwill.

Goodwill is tested for impairment annually utilizing a combination of income and market approaches. The income approach applies a discounted cash flow methodology to the Company's future period projections and the more heavily weighted market approach uses market available information on the Company. We perform this impairment analysis during the fourth quarter of each year or when a significant event occurs that may impact goodwill. Impairment may occur when the carrying value of the reporting unit exceeds its fair value. If the carrying value of the reporting unit exceeds its fair value, the fair value of all identifiable tangible and intangible assets and liabilities is determined as part of a hypothetical purchase price allocation to determine the amount of goodwill impairment. No impairment of goodwill has occurred to date.

Intangibles.

Intangible assets include intellectual property, patents and acquired products. At December 31, 2013, the Company revised its estimate of useful lives on certain intangible assets, which caused decreased amortization expense in 2014 by $0.4 million.

1. Intellectual Property. Initial costs paid to license intellectual property from independent third parties are capitalized and amortized using the straight-line method over the license period. Ongoing royalties related to such licenses are expensed as incurred.

2. Patents. We capitalize legal costs, filing fees and other expenses associated with obtaining patents on new discoveries and amortize these costs using the straight-line method over the shorter of the legal life of the patent or its economic life beginning on the date the patent is issued.

3. Acquired Products. As part of the FAMILION acquisition and acquisition of certain intangible assets from Axial, the Company acquired technology, in process technology, trademarks/tradenames, customer relationships, covenants not to compete and third party relationships. These costs will be amortized pursuant to the straight-line method over their estimated economic life of seven to ten years. See Footnote 5 "Intangible Assets and Other Assets".

We review our amortizable long lived assets for impairment whenever events indicate that the carrying amount of the asset (group) may not be recoverable. An impairment loss may be needed if the sum of the future undiscounted cash flows is less than the carrying amount of the asset (group). The amount of the loss would be determined by comparing the fair market value of the asset to the carrying amount of the asset (group). No loss has been recorded during the years ended December 31, 2014, 2013 or 2012.

Common Stock Warrants.

Our issued and outstanding 2012 warrants to purchase common stock do not qualify to be treated as equity and accordingly, are recorded as a liability ("Common Stock Warrant Liability"). The Common Stock Warrant Liability was initially recorded at fair value using a Monte Carlo simulation model. We are required to present these instruments at fair value at each reporting date and any changes in fair values are recorded as an adjustment to earnings. The Common Stock Warrant Liability is considered a Level 3 financial instrument. See Footnote 13 - "Fair Value".

Stock Based Compensation.

All stock-based awards to date have exercise prices equal to the market price of our common stock on the date of grant and have ten-year contractual terms. Unvested options as of December 31, 2014 had vesting periods of one or three years from the date of grant. None of the stock options outstanding at December 31, 2014 are subject to

performance or market-based vesting conditions.

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We measure and recognize compensation expense for all stock-based awards made to employees and directors, including stock options. Compensation expense, net of estimated forfeitures, is based on the calculated fair value of the awards as measured at the grant date and is expensed over the service period of the awards.

Income Taxes.
Deferred tax assets and liabilities are determined based on the differences between the financial reporting and tax basis of assets and liabilities at each balance sheet date using tax rates expected to be in effect in the year the differences are expected to reverse. Deferred tax assets are reduced by a valuation allowance to the extent that it is more likely than not that they will not be realized. Our policy is to record interest and penalties directly related to income taxes as income tax expense in the Consolidated Statements of Operations.
Net Sales Recognition.
Revenue is realized and earned when all of the following criteria are met:
- Persuasive evidence of an arrangement exists;
- Delivery has occurred or services have been rendered;
- The seller's price to the buyer is fixed or determinable; and
- Collectability is reasonably assured.

In Laboratory Services, net sales from Patient Testing laboratories are recognized on an individual test basis and take place when the test report is completed, reviewed and sent to the client less the reserve for insurance, Medicare and Medicaid contractual adjustments. There are no deferred net sales associated with our Patient Testing services. Adjustments to the allowances, based on actual receipts from third party payers, are reflected in the estimated contractual allowance applied prospectively. In our Biomarker Identification laboratory, we perform services on a project by project basis. When we receive payment in advance, we recognize revenue when we deliver the service. These projects typically do not extend beyond one year. At December 31, 2014 and 2013, deferred net sales associated with pharmacogenomics research projects, included in the balance sheet in deferred revenue, was $0.3 million and $0.2 million, respectively.
Net sales of Genetic Assays and Platforms products are recognized in accordance with the terms of the sales arrangement. Such recognition is based on receipt of an unconditional customer order and transfer of title and risk of ownership to the customer, typically upon shipment of the product under a purchase order. Our sales terms do not provide for the right of return unless the product is damaged or defective. Net sales from certain services associated with the analytical instruments, to be performed subsequent to shipment of the products, is deferred and recognized when the services are provided. Such services, mainly limited to installation and training services that are not essential to the functionality of the instruments, typically are performed in a timely manner subsequent to shipment of the instrument. We also enter into various service contracts that cover installed instruments. These contracts cover specific time periods and net sales associated with these contracts are deferred and recognized ratably over the service period. At December 31, 2014 and 2013, deferred net sales, mainly associated with our service contracts, included in the balance sheet in deferred revenue was approximately $0.7 million and $0.9 million, respectively.
Taxes collected from customers and remitted to government agencies for specific net sales producing transactions are recorded net with no effect on the income statement.
Research and Development.
Research and development and various collaboration costs are charged to expense when incurred.
Translation of Foreign Currency.
Our foreign subsidiary uses the local currency of the country in which it is located as its functional currency. Its assets and liabilities are translated into U.S. dollars at the exchange rates in effect at the balance sheet date. A translation loss of $0.1 million is reported in other comprehensive income on the accompanying consolidated balance sheet as of both December 31, 2014 and 2013. Revenues and expenses are translated at the average rates during the period. For

transactions that are not denominated in the functional currency, we recognized a foreign currency translation loss of less than $0.1 million for the year ended December 31, 2014, foreign currency translation income of less than $0.1 million for the year ended December 31, 2013 and a foreign currency translation loss of less than $0.1 million for the year ended December 31, 2012.

Earnings Per Share.

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Basic earnings per share is calculated based on the weighted-average number of shares of common stock outstanding during each period. Diluted earnings per share includes shares issuable upon exercise of outstanding stock options, warrants or conversion rights that have exercise or conversion prices below the market value of our common stock, as long as the effect is not anti-dilutive. Options, warrants and conversion rights pertaining to 6,613,572, 3,785,709 and 2,471,670 shares of our common stock have been excluded from the computation of diluted earnings per share at December 31, 2014, 2013 and 2012, respectively. The options, warrants and conversion rights that were exercisable in 2014, 2013 and 2012 were not included because the effect would be anti-dilutive due to the net loss.

Recently Issued Accounting Pronouncements.

In April 2014, the Financial Accounting Standards Board (“FASB”) issued Accounting Standards Update (“ASU”) No. 2014-08, Presentation of Financial Statements (Topic 205) and Property, Plant, and Equipment (Topic 360): Reporting Discontinued Operations and Disclosures of Disposals of Components of an Entity, which changes the criteria for reporting a discontinued operation. Under this standard, a disposal of part of an organization that has a major effect on its operations and financial results is a discontinued operation. This guidance is effective prospectively for us beginning January 1, 2015 with earlier application permitted, but only for disposals (or classifications as held for sale) that have not been reported previously. When adopted, we do not expect that this guidance will have a material impact on our financial condition, results of operations or cash flows.

In May 2014, the FASB issued ASU 2014-09, Revenue from Contracts with Customers. This guidance requires an entity to recognize the amount of revenue to which it expects to be entitled for the transfer of promised goods or services to a customer. This ASU will replace most existing revenue recognition guidance in generally accepted accounting principles in the U.S. when it becomes effective on January 1, 2017. Early application is not permitted, but the standard permits the use of either the retrospective or cumulative effect transition method. We have not selected a transition method and are currently evaluating the impact this guidance will have on our financial condition, results of operations and cash flows.

In August 2014, the FASB issued ASU 2014-15, Presentation of Financial Statements - Going Concern (Subtopic 205-40). The new guidance addresses management’s responsibility to evaluate whether there is substantial doubt about an entity’s ability to continue as a going concern and to provide related footnote disclosures. The standard will be effective for the first interim period within annual reporting periods beginning after December 15, 2016. Early adoption is permitted. We do not expect to early adopt this guidance and do not believe that the adoption of this guidance will have a material impact on our consolidated financial statements.

3. SALE OF PRODUCT LINE

On July 1, 2014, we entered into a Surveyor Kit Patent, Technology, and Inventory Purchase Agreement (the “Purchase Agreement”) with Integrated DNA Technologies, Inc. (“IDT”). Pursuant to the Purchase Agreement, on July 1, 2014, we transferred and sold to IDT all of our right, title and interest in and to our Surveyor Kits product line and related technology, including, without limitation, all patents, patent applications, licenses, technology, know-how and trademarks relating to the Surveyor Kits product line technology and our inventory of Surveyor products (collectively, the “Surveyor Technology”).

In consideration for the purchase of the Surveyor Technology, IDT paid us an initial payment of $3.65 million. IDT will pay us an additional amount equal to an aggregate of $600,000 in four equal installments, the first of which was required to be made by, and was received on, October 1, 2014, and the last of which must be made by July 1, 2015. Additionally, if net sales of the Surveyor Kits by IDT exceed a certain threshold during the period beginning on October 1, 2014 and ending on September 30, 2015, IDT will be obligated to pay us an additional earn-out payment equal to a percentage of the net sales exceeding the threshold that is in the middle double digits.

Pursuant to the Purchase Agreement, IDT granted us a worldwide, irrevocable, exclusive, fully paid-up, royalty-free, transferable right and license to the Surveyor Technology for clinical uses, including, without limitation, the provision

of diagnostic and pharmaceutical services and any other clinical uses in connection with our Laboratory Services segment.

For the twelve months ended December 31, 2014, we recorded a gain on the sale of the Surveyor Technology of approximately $4.1 million, based on the net proceeds in excess of the total divested net assets.

4. INVENTORIES

Inventories (net of allowance for slow moving and obsolescence) consisted of the following:

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	Dollars in Thousands	
	December 31, 2014	December 31, 2013
Finished goods	$2,139	$2,978
Raw materials and work in process	1,302	1,567
Demonstration inventory	192	211
	$3,633	$4,756
Less allowances	(628)	(799)
Total	$3,005	$3,957

5. INTANGIBLE ASSETS AND OTHER ASSETS

Long-lived intangible assets and other assets consisted of the following:

	Dollars in Thousands					
	December 31, 2014			December 31, 2013		
	Cost	Accumulated Amortization	Net Book Value	Cost	Accumulated Amortization	Net Book Value
Acquired technology	$9,009	$3,995	$5,014	$9,009	$3,175	$5,834
Assay royalties	1,434	819	615	1,434	614	820
Third party payor relationships	367	98	269	367	73	294
Tradenames and trademarks	824	351	473	824	233	591
Customer relationships	652	98	554	652	54	598
Covenants not to compete	184	138	46	184	77	107
Patents	1,198	385	813	1,153	336	817
Intellectual property	266	86	180	170	36	134
	$13,934	$5,970	$7,964	$13,793	$4,598	$9,195

	Estimated Useful Life
Acquired technology	7 – 10 years
Assay royalties	7 years
Third party payor relationships	15 years
Tradenames and trademarks	7 years
Customer relationships	15 years
Covenants not to compete	3 years
Patents	Life of the patent
Intellectual property	7 years

Amortization expense for intangible assets was $1.4 million, $1.8 million and $1.4 million during the years ended December 31, 2014, 2013 and 2012. At December 31, 2013, the Company revised its estimate of useful lives on certain intangible assets which caused amortization expense in 2014 to decrease by $0.4 million. Amortization expense for intangible assets for each of the five succeeding fiscal years is expected to be $1.4 million, $1.3 million, $1.3 million, $1.0 million and $0.9 million for the years ended December 31, 2015, 2016, 2017, 2018 and 2019, respectively.

Other assets include U.S. security deposits and deferred tax assets, net of applicable valuation allowances.

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6. DEBT

	Dollars in Thousands Year Ended December 31,	
	2014	2013
Revolving Line [1]	$3,000	$2,560
Term Loan [2]	4,087	4,000
Convertible Promissory Note [3]	750	—
Total debt	7,837	6,560
Current portion of long term debt	(462)	(242)
Long term debt, net of current maturities	$7,375	$6,318

Revolving Line and Term Loan.

On March 13, 2013 (the "Effective Date"), we entered into a Loan and Security Agreement with affiliates of Third Security, LLC (the "Lenders") for (a) a revolving line of credit (the "Revolving Line") with borrowing availability of up to $4.0 million, subject to reduction based on our eligible accounts receivable, and (b) a term loan (the "Term Loan") of $4.0 million (the "Loan Agreement"). Proceeds were used to pay off the PGxHealth note payable and for general corporate and working capital purposes.

On August 2, 2013, we entered into an amendment to the Loan Agreement (the "Amendment"). The Amendment, which became effective as of June 30, 2013, reduces our future minimum revenue covenants under the Loan Agreement and modifies the interest rates applicable to the amounts advanced under the Revolving Line.

On November 14, 2013, we entered into a second amendment to the Loan Agreement (the "Second Amendment"). The Second Amendment, which is effective as of October 31, 2013, reduces our future minimum revenue covenant under the Loan Agreement.

On January 27, 2014, we entered into a third amendment to the Loan Agreement (the "Third Amendment"). Pursuant to the Third Amendment, the Lenders agreed to waive certain events of default under the Loan Agreement, and the parties amended certain provisions of the Loan Agreement, including the minimum liquidity ratio that we must maintain during the term of the Loan Agreement.

On March 3, 2014, we entered into a fourth amendment to the Loan Agreement (the "Fourth Amendment"). The Fourth Amendment provides that we will not be required to make any principal or interest payments under the Term Loan for the period from March 1, 2014 through March 31, 2015. Accordingly, pursuant to the Loan Agreement as amended by the Fourth Amendment, the next principal and interest payment under the Term Loan will be due on April 1, 2015. The interest on the debt that is being deferred, and not paid, is being capitalized as part of the Term Loan. As of December 31, 2014, the amount of interest that has been capitalized is $0.3 million.

On October 22, 2014, we entered into a fifth amendment to the Loan Agreement (the "Fifth Amendment"). Pursuant to the Fifth Amendment, among other things, reduced the minimum liquidity and revenue covenants under the Loan Agreement. The Fifth Amendment also reduced the aggregate amount that we may borrow under the Revolving Line from $4.0 million to $3.0 million.

On April 1, 2015, we entered into a sixth amendment to the Loan Agreement (the “Sixth Amendment”). The Sixth Amendment provides, among other things, that (i) the Lenders will waive specified events of default under the terms of the Loan Agreement, (ii) commencing as of April 1, 2015, we will make monthly interest payments to the Lenders, (iii) we will not be obligated to make monthly payments of principal to the Lenders until April 1, 2016, (iv) we will be required to make an initial prepayment of a portion of the loan balance in the amount of approximately $149,000 on April 1, 2015 and one or more additional prepayments to the Lenders under the Loan Agreement upon the occurrence of certain events, and (v) we will not be required to comply with the minimum liquidity ratio under the terms of the Loan Agreement until the earliest to occur of a specified event or March 31, 2016. The Sixth Amendment also extends the time period in which we must provide certain reports and statements to the Lenders and amends the circumstances pursuant to which we may engage in certain sales or transfers of its business or property without the consent of the Lenders.

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Convertible Promissory Note.

On December 31, 2014, we entered into an Unsecured Convertible Promissory Note Purchase Agreement with an accredited investor (the "Investor") pursuant to which we agreed to issue and sell to the Investor in a private placement an unsecured convertible promissory note (the "Note"). We issued the Note in the aggregate principal amount of $750,000 to the Investor on December 31, 2014. The Note accrues interest at a rate of 6% per year and matures on December 31, 2016. Under the Note, the outstanding principal and unpaid interest accrued under the Note is convertible into shares of common stock of the Company as follows: (i) commencing upon the date of issuance of the Note (but no earlier than January 1, 2015), the Investor is entitled to convert, on a one-time basis, up to 50% of the outstanding principal and unpaid interest accrued under the Note, into shares of common stock of the Company at a conversion price equal to the lesser of (a) the average closing price of the common stock on the principal securities exchange or securities market on which the Company's common stock is then traded (the "Market") for the 20 consecutive trading days immediately preceding the date of conversion, and (b) $2.20 (subject to adjustment for stock splits, stock dividends, other distributions, recapitalizations and the like); and (ii) commencing February 15, 2015, the Investor is entitled to convert, on a one-time basis, any or all of the remaining outstanding principal and unpaid interest accrued under the Note, into shares of common stock of the Company at a conversion price equal to 85% of the average closing price of the Common Stock on the Market for the 15 consecutive trading days immediately preceding the date of conversion.

(1) Revolving Line of Credit. Amounts advanced under the Revolving Line bear interest at an annual rate equal to the greater of (a) 4.25% or (b) the Wall Street Journal prime rate plus 1%. Interest is payable on a monthly basis, with the balance payable at the maturity of the Revolving Line. Under the Amendment, amounts advanced under the Revolving Line bear interest at an annual rate equal to the greater of (x) 6.25% or (y) the Wall Street Journal prime rate plus 3%. The current interest rate is 6.25%. Under the Loan Agreement, we paid the Lenders an upfront fee of $20,000, and will pay the Lenders an additional commitment fee of $20,000 on each one year anniversary of the Effective Date during the term of the Revolving Line. In addition, a fee of 0.5% per annum is payable quarterly on the unused portion of the Revolving Line. The Revolving Line matures on September 1, 2016.

(2) Term Loan. We received $4.0 million under the Term Loan on the Effective Date. Pursuant to the terms of the Loan Agreement, as amended by the Sixth Amendment, we are required to make monthly payments of interest to the Lenders commencing on April 1, 2015. The current interest rate is 9.1%.

We paid the Lenders an upfront fee of $40,000 for the Term Loan, and will pay the Lenders an ad