TRANSGENOMIC INC
Form 10-K
March 30, 2009
Table of Contents

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

(Mark One)

x **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the fiscal year ended December 31, 2008

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)	(IRS Employer Identification Number)
	68164

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**
None	N/A

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

Common Stock, par value $.01 per share

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer or a smaller reporting company. See definition of accelerated filer , large 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 x

(Do not check if a smaller reporting company)

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

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 OTC Bulletin Board on the last business day of the registrant s most recently completed second quarter was approximately $26.6 million. An affiliate is anyone who owns 10% or more of our stock.

At March 30, 2009, the registrant had 49,189,672 shares of Common Stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant Proxy Statement relating to its 2009 Annual Meeting of Stockholders (the Proxy Statement) have been incorporated into Part III of this Report on Form 10-K.

Table of Contents

TRANSGENOMIC, INC.

Index to Form 10-K for the Fiscal Year Ended December 31, 2008

PART I			
	Item 1.	Business	K-2
	Item 1A.	Risk Factors	K-6
	Item 1B.	Unresolved Staff Comments	K-11
	Item 2.	Properties	K-11
	Item 3.	Legal Proceedings	K-12
	Item 4.	Submission of Matters to a Vote of Security Holders	K-12
PART II			
	Item 5.	Market for Registrant s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities	K-13
	Item 6.	Selected Consolidated Financial Data	K-14
	Item 7.	Management s Discussion and Analysis of Financial Condition and Results of Operations	K-15
	Item 7A.	Quantitative and Qualitative Disclosures About Market Risk	K-25
	Item 8.	Financial Statements and Supplementary Data	
		Report of Independent Registered Public Accounting Firm	K-26
		Consolidated Balance Sheets as of December 31, 2008 and 2007	K-27
		Consolidated Statements of Operations for the Years Ended December 31, 2008 and 2007	K-28
		Consolidated Statements of Stockholders Equity for the Years Ended December 31, 2008 and 2007	K-29
		Consolidated Statements of Cash Flows for the Years Ended December 31, 2008 and 2007	K-30
		Notes to the Consolidated Financial Statements for the Years Ended December 31, 2008 and 2007	K-31
	Item 9A(T).	Controls and Procedures	K-50
	Item 9B.	Other Information	K-51
PART III			
	Item 10.	Directors, Executive Officers and Corporate Governance	K-52
	Item 11.	Executive Compensation	K-52
	Item 12.	Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters	K-53
	Item 13.	Certain Relationships and Related Transactions, and Director Independence	K-53
	Item 14.	Principal Accounting Fees and Services	K-53
PART IV			
	Item 15.	Exhibits, Financial Statement Schedules	K-53
SIGNATURES			K-57

This Annual Report on Form 10-K references the following registered trademarks which are the property of Transgenomic, Inc.: DNASEP® Columns, WAVE® System, WAVEMAKER® Software, TRANSFORMING THE WORLD® for Laboratory Equipment, TRANSGENOMIC® and the Globe Logo®; MutationDiscovery.com® Website, OLIGOSEP® for Systems and Reagents, OPTIMASE® Polymerase, RNASEP® Columns, SURVEYOR® WAVE OPTIMIZED® reagents, and WAVE® MD Systems. Additionally, this Annual Report on Form 10-K references the following trademarks which are the property of Transgenomic, Inc.: MitoScreen Kits, ProtocolWriter Software, Navigator Software, THE POWER OF DISCOVERY for Lab Reagents and Educational Programs, and Surveyor Nuclease. All other trademarks or trade names referred to in this Annual Report on Form 10-K are the property of their respective owners.

Table of Contents

PART I

FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K contains or incorporates by reference certain forward-looking statements. Many of these forward-looking statements refer to our plans, objectives, expectations and intentions, as well as our future financial results and are subject to risk and uncertainty. You can identify these forward-looking statements by words such as expects, anticipates, intends, plans, may, will, believ estimates and similar expressions. Because these forward-looking statements involve risks and uncertainties, there are many factors that could cause our actual results to differ materially from those expressed or implied by these forward-looking statements, including those discussed under Item 1A Risk Factors and other factors identified by cautionary language used elsewhere in the Annual Report on Form 10-K.

Item 1. Our Business

Transgenomic, Inc. (together with its affiliates, the Company or Transgenomic) provides innovative products for the purification and analysis of nucleic acids used in the life sciences industry for research focused on molecular genetics and diagnostics. The Company also provides genetic variation analytical services to the medical research, clinical and pharmaceutical markets. Net sales are categorized as Instrument Related Business and Laboratory Services.

Instrument Related Business:

- Bioinstruments. Our flagship product is the WAVE® System which has broad applicability to genetic variation detection in both molecular genetic research and molecular diagnostics. There is a worldwide installed base of over 1,440 WAVE Systems as of December 31, 2008. We also distribute bioinstruments produced by other manufacturers (OEM Equipment) through our sales and distribution network. Service contracts to maintain installed systems are sold and supported by technical support personnel.

- Bioconsumables. The installed WAVE base and some third party installed platforms generate a demand for consumables that are required for the continued operation of the bioinstruments. 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 SURVEYOR® Nuclease and a range of HPLC separation columns.

Laboratory Services:

- Molecular Clinical Reference Laboratory Services. Our molecular clinical reference laboratory specializes in mitochondrial and molecular diagnostic testing including genetic testing for oncology, hematology and inherited disorders. Located in Omaha, Nebraska, the molecular clinical reference laboratory operates in a Good Laboratory Practices compliant environment and is certified under the Clinical Laboratory Improvement Amendment.

- Pharmacogenomics Research Services. Pharmacogenomics research services are provided by our Contract Research Organization located in Omaha, Nebraska. It specializes

Table of Contents

in pharmacogenomic, biomarker and mutation discovery research serving the pharmaceutical and biomedical industries worldwide for disease research, drug and diagnostic development and clinical trial support.

We previously operated a segment (the Nucleic Acids operating segment) that developed, manufactured and marketed chemical building blocks for nucleic acid synthesis. In the fourth quarter of 2005, we implemented a plan to exit the Nucleic Acids operating segment and during the three months ended March 31, 2007, we completed the sale of the remaining assets associated with this segment. Accordingly, the assets and results of the Nucleic Acids operating segment are reflected as discontinued operations for all periods presented in this filing.

Business Strategy

Since inception, our business strategy has been to provide products and services to biomedical researchers, medical institutions, and diagnostic and pharmaceutical companies that are tied to advancements in the field of genomics. Advances in genomics have fueled efforts to understand individual differences in disease susceptibility, disease progression, and response to therapy. Accordingly, a principal component of our strategy has and continues to be to establish our WAVE System as an industry standard in the biomedical research market and to develop additional markets for the WAVE System such as clinical research and diagnostics. We attained ISO90001:2000 accreditation for our Omaha manufacturing site in the fourth quarter of 2008.

Over the last couple of years our strategy has shifted somewhat to include another area of strategic focus that we believe can provide significant opportunities. Through our Laboratory Services offerings we have gained exposure to the translational and clinical research markets, laying the foundation for increasing our participation in the full value chain associated with activities ranging from basic biomedical research to development of diagnostic and therapeutic products. During the fourth quarter of 2005, our laboratory in Omaha, Nebraska was certified under the Clinical Laboratory Improvement Amendments and we received our first patient samples for molecular-based testing for hematology, oncology and certain inherited diseases for physicians and third-party laboratories. In December of 2008 we were awarded an accreditation by the Commission on Laboratory Accreditation of the College of American Pathologists (CAP) based on the results of an onsite investigation. The CAP Laboratory Accreditation Program, begun in the early 1960 s, is recognized by the federal government as being equal to or more stringent than the government s own inspection program. We believe there is a significant opportunity for us to capitalize on the increasing demand for molecular-based personalized medicine by leveraging on our technologies and experience gained from the genomic biomarker analysis that our Laboratory Services business has and will continue to provide to pharmaceutical and biopharmaceutical companies.

Sales and Marketing

We have sold our products to customers in over 50 countries. We use a direct sales and support staff for sales in the U.S., U.K. and most countries in Western Europe. For the rest of the world, we sell our products through dealers and distributors located in those local markets. We have over 35 dealers and distributors. We also maintain regionally-based technical support staff and applications scientists to support our sales and marketing activities throughout the U.S. and Europe. The nature of our Instrument Related Business does not generally lend itself to tracking and reporting sales backlog.

Table of Contents

Customers

Customers include numerous leading academic and medical institutions in the U.S. and abroad. In addition, our customers also include a number of large, established U.S. and foreign pharmaceutical, biotech and commercial companies. No customer accounts for more than 10% of our consolidated net sales. For the year ended December 31, 2008 four customers each made up more than 10% of the Laboratory Services net sales. Combined they represent 56% of the Laboratory Services net sales.

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 instruments and services, engaging existing and new technologies to create scientific and medical applications that will have significant commercial value. Major areas of focus include ultra-high sensitivity DNA mutation detection building in our WAVE and Surveyor products; a toolbox of mitochondrial DNA assays to assess damage, copy number, deletion and mutation for applications ranging from toxicology to diabetes to aging; clinical development of in-licensed diagnostics in neurodegenerative diseases, including Alzheimer s and Parkinson s diseases; and development of oncology mutation kits using WAVE/Surveyor for selection of anti-cancer therapies.

For the years ended December 31, 2008 and 2007, our research and development expenses were $2.5 million and $3.0 million, respectively.

Manufacturing

We manufacture bioconsumable products including our separation columns, liquid reagents, and enzymes. The major components of our WAVE Systems are manufactured for us by a third party. We integrate our own hardware and software with these third party manufactured components. Our manufacturing facilities for our 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, as well as confidentiality provisions in our contracts. We presently own rights to 66 issued patents and 10 pending applications in both the U.S. and abroad. Our WAVE System and related consumables are protected by patents and in-licensed technologies that expire in various periods beginning in 2013 through 2023. We will continue to file patent applications and seek new licenses as warranted to protect and develop new technologies of interest to our customer base in the coming years.

Competition

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

Table of Contents

Competition for our WAVE Systems arises primarily from DNA sequencing and genotyping technologies. Competitors in these areas include Applied Biosystems, Idaho Technologies, Roche, Sequenom, and others. Competition for some of our non-WAVE consumable products comes from numerous well-diversified life sciences reagents providers, including, among others, Invitrogen, Qiagen, Roche, Stratagene, and Promega. Our Laboratory Services face competition from a number of companies offering contract DNA sequencing and other genomic analysis services, including Genizon, Clinical Data, SeqWright and others. In addition, several clinical diagnostics service providers, such as Labcorp, Quest, Athena and Baylor College of Medicine, also offer related laboratory services. Finally, additional competition arises from academic core laboratory facilities.

Employees

As of December 31, 2008 and 2007, we had employees focused in the following areas of our operation:

	December 31,	
	2008	**2007**
Manufacturing	27	30
Sales, Marketing and Administration	82	76
Research and Development	10	10
	119	116

Our employees were employed in the following geographical locations:

	December 31,	
	2008	**2007**
United States	89	89
Europe (other than the United Kingdom)	13	13
United Kingdom	17	14
	119	116

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). We maintain manufacturing facilities in Omaha, Nebraska and San Jose, California. We maintain research and development offices in Gaithersburg, Maryland and Omaha, Nebraska.

We make reports filed by us with the SEC available free of charge on our website as soon as reasonably practicable after these reports are filed. The address of our website is www.transgenomic.com. Information on our website, including any SEC report, is not part of this Annual Report on Form 10-K.

Table of Contents

Item 1A. Risk Factors

We may not have adequate financial resources to execute our business plan.

We have historically operated at a loss and have not consistently generated sufficient cash from operating activities to cover our operating and other cash expenses. While we have been able to historically finance our operating losses through borrowings or from the issuance of additional equity, we currently have no plans to borrow additional funds or to issue additional equity securities for this purpose. At December 31, 2008, we had cash and cash equivalents of $4.8 million. While we believe that existing sources of liquidity are sufficient to meet expected cash needs through 2009, we will need to increase our net sales or further reduce our operating expenses in order to be assured of meeting our liquidity needs on a long-term basis. However, we cannot assure you that we will be able to increase our net sales or further reduce our expenses and, accordingly, we may not have sufficient sources of liquidity to continue the operations of the Company indefinitely.

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 net loss for the year ended December 31, 2008 was $0.5 million. Our loss from continuing operations for the year ended December 31, 2007 was $2.2 million. These historical losses have been due principally to the high levels of research and development expenses and sales and marketing expenses that we have incurred in order to develop and market our products, the fixed nature of our manufacturing costs, restructuring charges and impairment charges. In addition, markets for our products and services have developed more slowly than expected in many cases and may continue to do so. As a result, we may incur operating losses in the future.

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 also be lengthy. If net sales from the sales of our products and services continue at current levels, we may need to take steps to further reduce operating expenses or raise additional working capital. We cannot assure you that sales will increase or that we will be able to reduce operating expenses or raise additional working capital.

The current economy may decrease sales.

Demand for our instruments is affected by the budgetary resources of institutions that use our products. Potential customers may be unable to obtain the financing that they need to make such significant capital expenditures during these troubled economic times. In addition, potential customers may be under budgetary restrictions which do not allow for such capital expenditures in the foreseeable future.

Sales of our Laboratory Services have been variable.

Laboratory Services include services performed by both our Molecular Clinical Reference Laboratory and our Pharmacogenomics Research Services. Testing volumes at the Molecular Clinical

Table of Contents

Reference Laboratory is dependent on patient visits to doctors offices and other providers of health care and tends to fluctuate on a seasonal basis. Volume of testing generally declines during the year end holiday periods, other major holidays and the summer. The Pharmacogenomics Research Services depends on project based work which will change from quarter to quarter. Therefore, comparison of the results of successive quarters may not accurately reflect trends or results for the full year.

Compliance with HIPAA is time consuming and costly.

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

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 more than 50% 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 since our foreign sales are typically paid for in British Pounds or the Euro;

- 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 to our ability to sell products and services profitably in these markets; and

- the fluctuation of foreign currency to the US 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, 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 more time consuming or

Table of Contents

expensive or 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.

The current economy may cause suppliers of products to not be able to perform.

We rely on various suppliers for products and materials needed to produce our products. In the event that they would be unable to deliver those items due to product shortage or business closure, we would be unable to deliver our products or may need to increase our prices. The current economy poses additional risk of our suppliers ability to continue their businesses as usual.

We may not have adequate personnel to execute our business plan.

In order to reduce our operating costs, we have reduced the number of employees in most areas of our business. In addition, we may lose key management, scientific, technical, sales and manufacturing personnel from time to time. It may be very difficult to replace personnel if they are needed in the future, and the loss of key personnel could harm our business and operating results. We cannot assure you that our employee reductions will not impair our ability to continue to develop new products and refine existing products in order to remain competitive. In addition, these reductions could prevent us from successfully marketing our products and developing our customer base.

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 that 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 secret protection, copyright and trademark laws, non-disclosure agreements and other contractual provisions for some of our confidential and proprietary information that is not

Table of Contents

subject matter for which patent protection is being sought. 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 our 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 technology, 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. The 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 efforts. Finally, some of our patent protection in the U.S. is 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, any application or exploitation of our technology could infringe patents or proprietary rights of others and any licenses that we might need as a result of such infringement might not be available to us on commercially reasonable terms, if at all. This may lead others to assert patent infringement or other intellectual property claims against us.

Our failure to comply with any applicable government 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 assure you 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.

The price for our common stock is volatile and may drop.

The trading price for our common stock has fluctuated significantly over recent years. The volatility in the price of our stock is attributable to a number of factors, not all of which relate to our operating results and financial position. Our stock is traded on the OTC Bulletin Board (OTCBB).

Table of Contents

Continued volatility in the market price for our stock should be expected and we cannot assure you that the price of our stock will not decrease in the future. Fluctuations or further declines in the price of our stock may affect our ability to sell shares of our stock and to raise capital through future equity financing.

Our stock has been delisted from the Nasdaq Capital Market and is now trading on the OTC Bulletin Board (OTCBB).

On February 1, 2007, we received a staff determination letter from Nasdaq s Listing Qualifications Department indicating that we no longer met the minimum bid price requirement for continued listing on the Nasdaq Capital Market. As a result, our common stock on the Nasdaq Capital Market was ended on February 22, 2007. Trading information about our common stock became available on the OTC Bulletin Board beginning on February 26, 2007.

Our common stock is deemed to be penny stock , which may make it more difficult for investors to sell their shares due to suitability requirements.

Our common stock is classified as a penny stock under the rules of the SEC. The Securities and Exchange Commission has adopted Rule 3a51-1 which establishes the definition of a penny stock , for the purposes relevant to us, as any equity security that has a market price of less than $5.00 per share or with an exercise price of less than $5.00 per share, subject to certain exceptions. For any transaction involving a penny stock, unless exempt, Rule 15g-9 requires:

- that a broker or dealer approve a person s account for transactions in penny stocks; and
- that the broker or dealer receives from the investor a written agreement to the transaction, setting forth the identity and quantity of the penny stock to be purchased.

In order to approve a person s account for transactions in penny stocks, the broker or dealer must:

- obtain financial information and investment experience objectives of the person; and
- make a reasonable determination that the transactions in penny stocks are suitable for that person and the person has sufficient knowledge and experience in financial matters to be capable of evaluating the risks of transactions in penny stocks.

The broker or dealer must also deliver, prior to any transaction in a penny stock, a disclosure schedule prescribed by the SEC relating to the penny stock market, which, in highlight form:

- sets forth the basis on which the broker or dealer made the suitability determination; and
- that the broker or dealer received a signed, written agreement from the investor prior to the transaction.

Generally, brokers may be less willing to execute transactions in securities subject to the penny stock rules. This may make it more difficult for investors to dispose of our common stock and cause a decline in the market value of our stock.

Disclosure also has to be made about the risks of investing in penny stocks in both public offerings and in secondary trading and about the commissions payable to both the broker-dealer and

Table of Contents

the registered representative, current quotations for the securities and the rights and remedies available to an investor in cases of fraud in penny stock transactions. Finally, monthly statements have to be sent disclosing recent price information for the penny stock held in the account and information on the limited market in penny stocks.

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, 2008, we had obligations to issue 11,524,786 shares of common stock upon exercise of outstanding stock options representing 3,531,064 shares and warrants representing 7,993,722 shares. The issuance of these additional shares of common stock may be dilutive to our current shareholders 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, 2008, we had 49,189,672 shares of common stock outstanding. Fewer than ten unrelated, institutional holders own more than 50% of these shares. The sale of significant shares into the public market has 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. Such an event could place further downward pressure on the price of our common 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 stock in the market.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

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

Location	Function	Square Footage	2009 Scheduled Rent	Lease Term Expires
Omaha, Nebraska	WAVE and Consumable Manufacturing	25,000	$ 135	July 2011
San Jose, California	Consumable Manufacturing	14,360	$ 191	October 2010
Glasgow, Scotland	Multi Functional [(1)]	5,059	$ 30	March 2012
Omaha, Nebraska	Multi Functional [(1)]	18,265	$ 194	July 2012
Paris, France	Multi Functional [(1)]	4,753	$ 100	February 2011
Gaithersburg, Maryland	Multi Functional [(1)]	8,404	$ 150	May 2012

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

Table of Contents

We occupy the leased facilities, with the exception of the Paris, France facility which we have vacated and are in the process of finding a tenant to sublease this facility. In the event we are unable to sublease the Paris, France facility, we will exercise the early termination clause which allows for the lease to terminate in February 2011. We have a reserve of $0.2 million in other accrued expenses for the remaining lease liability.

We believe that our facilities are suitable and adequate for our current level of operations.

Item 3. Legal Proceedings.

The Company is not a party to any pending legal proceedings which, if decided adversely to the Company, will have a material adverse effect on our financial position, results of operations or cash flows.

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

We did not submit any matters to our stockholders for a vote or other approval during the fourth quarter of the fiscal year covered by this report.

Table of Contents

PART II

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

Market Information. Share price information for our common stock is available on the OTC Bulletin Board under the symbol TBIO.OB. Prior to February 22, 2007, our common stock was listed for trading on the Nasdaq Capital Market 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 2007 and 2008.

	High	Low
Year Ended December 31, 2007		
First Quarter	$ 0.80	$ 0.42
Second Quarter	$ 0.88	$ 0.61
Third Quarter	$ 0.75	$ 0.49
Fourth Quarter	$ 0.72	$ 0.41
Year Ended December 31, 2008		
First Quarter	$ 0.54	$ 0.42
Second Quarter	$ 0.86	$ 0.47
Third Quarter	$ 0.85	$ 0.52
Fourth Quarter	$ 0.56	$ 0.25

Holders. At December 31, 2008, there are 49,189,672 shares of our common stock outstanding and approximately 2,851 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. We expect to retain all earnings, if any, for investment in our business. Dividends on our common stock will be paid only if and when declared by our Board of Directors. The Board s ability to declare a dividend is subject to limits imposed by Delaware corporate law. 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.

Sale of Unregistered Securities. The Company made no sales of its common stock during the years ended December 31, 2008 and 2007 that were not registered under the Securities Act of 1933 (the Securities Act). Information regarding sales of equity securities by the Company during the year ended December 31, 2005 that were not registered under the Securities Act of 1933 have been previously reported by the Company on Form 8-Ks filed on March 18, 2005, March 30, 2005 and October 31, 2005.

Issuer Purchase of Equity Securities. The Company made no purchases of its common stock during the quarter ended December 31, 2008. Therefore, tabular disclosure is not presented.

Table of Contents

Item 6. Selected Consolidated Financial Data.

The selected consolidated balance sheet data as of December 31, 2008 and 2007 and the selected consolidated statements of operations data for each year ended December 31, 2008 and 2007 have been derived from our audited consolidated financial statements that are included elsewhere in this Annual Report on Form 10-K. The selected consolidated balance sheet data as of December 31, 2006, 2005 and 2004 and the selected consolidated statements of operations data for each year ended December 31, 2006, 2005 and 2004 have been derived from our audited consolidated financial statements that are not included in this Annual Report on Form 10-K. Dollar amounts, except per share data, are presented in thousands.

	Year Ended December 31,				
	2008	2007	2006	2005	2004
Statement of Operations Data:					
Net sales	$ 23,993	$ 23,176	$ 23,415	$ 25,828	$ 25,243
Cost of good sold	10,345	10,483	12,046	13,497	11,997
Gross profit	13,648	12,693	11,369	12,331	13,246
Selling, general and administrative	10,795	11,466	12,138	12,218	15,961
Research and development	2,465	3,033	2,362	2,199	4,501
Restructuring charges [1]	118	1,516			1,267
Impairment charges [2]	638			425	
Operating expenses	14,016	16,015	14,500	14,842	21,729
Other income (expense) [3]	86	1,391	198	(2,447)	(5,263)
Loss before income taxes	(282)	(1,931)	(2,933)	(4,958)	(13,746)
Income tax expense	213	243	30	26	4
Loss from continuing operations	(495)	(2,174)	(2,963)	(4,984)	(13,750)
Income (Loss) from discontinued operations, net of tax [4]		67	(468)	(10,009)	(20,622)
Net Loss	$ (495)	$ (2,107)	$ (3,431)	$ (14,993)	$ (34,372)
Basic and diluted Loss per share: [4]					
From continuing operations	$ (0.01)	$ (0.04)	$ (0.06)	$ (0.14)	$ (0.47)
From discontinued operations [4]			(0.01)	(0.28)	(0.72)
	$ (0.01)	$ (0.04)	$ (0.07)	$ (0.42)	$ (1.19)
Basic and diluted weighted average shares outstanding	49,190	49,190	49,188	35,688	29,006

	As of December 31,				
	2008	2007	2006	2005	2004
Balance Sheet Data:					
Total assets	$ 17,556	$ 19,090	$ 21,367	$ 25,340	$ 37,458
Borrowings under credit line [5]					6,514
Current portion of long-term debt [5]					825
Long-term debt, less current portion [5]					2,199
Total stockholders equity	13,205	14,102	16,038	17,906	16,535

(1) Restructuring plans were implemented in 2008, 2007 and 2004 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. Refer to Note D to the accompanying consolidated financial

statements.

(2) Impairment charges in 2008 relate to the impairment of goodwill. Impairment charges in 2005 relate to the impairment of patent pursuits and write-down of inventory to net realizable value.

Table of Contents

(3) Other income (expense) for all years presented primarily includes interest expense and interest income. Other income in 2007 includes $.9 million from the sale of an investment security and $.2 million in insurance proceeds related to equipment destroyed in fire at our Cramlington, England facility. The loss on debt extinguishment of $0.5 million in 2005 related to the repayment of long-term debt and $2.9 million resulting from certain modifications to long-term borrowing agreements that were treated as extinguishments for financial reporting purposes. Other expense in 2004 of $5.3 million consisted of interest expense of $2.4 million and loss on debt extinguishment of $2.9 million.

(4) During 2005, we decided to exit our Nucleic Acids operating segment and, as a result, we recorded impairment and exit charges of $8.8 million consisting of valuation adjustments to reflect the carrying value of related net assets at estimated fair market value. The results of this business segment are shown as discontinued operations for all periods presented. Refer to Note C to the accompanying consolidated financial statements.

(5) The Laurus Loans were repaid during 2005 resulting in a loss on debt extinguishment of $.5 million.

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

The following discussion should be read in conjunction with the Consolidated Financial Statements and applicable Notes to Consolidated Financial Statements and other information in this report, including Risk Factors set forth in Item 1A and Critical Accounting Policies set forth at the end of this Item 7.

Our continuing operations consist of the Instrument Related Business (including the manufacture and sale of our WAVE System and related consumable products) and the Laboratory Services (see the description of our business in Item 1). The Company has, for the first time, broken out our business into two reportable segments: Instrument Related business and Laboratory Services business. While we have been showing Net Sales and Cost of Sales for these segments, we have not previously disclosed any further detail. There are estimates involved in breaking out the remaining expenses and other disclosures. The Consolidated Financial Statements also reflect the assets and results of our former Nucleic Acids operating segment, which are shown as discontinued operations in all periods as a result of the implementation of a plan to exit this operating segment in the fourth quarter of 2005.

Executive Summary

2008 Results

Full year net sales for 2008 of $24.0 million increased by 4% compared with total net sales for 2007 of $23.2 million. Our bioinstruments business declined in 2008 due to fewer WAVE instruments sold in both the US and European markets. The Instrument Related Business decreased 3% from 2007 to 2008. The growth in our Laboratory Services was 56% over the prior year. Overall gross margins increased from 55% to 57%. Operating expenses in 2008, exclusive of $1.0 million in foreign currency revaluation gains, a goodwill impairment write-off of $0.6 million, and $0.1 million of restructure charges, were $14.3 million as compared to $14.4 million in 2007, exclusive of $0.1 million of revaluation losses and $1.5 million of restructure charges. While in total there has only been a slight decrease here, after adjusting for the items noted above, there has been some movement within the components. General and administrative costs are down by approximately $0.5 million, research and development costs are down by $0.6 million and sales and marketing costs are up by $0.9 million due to the focus around growing the laboratory business.

Although we have taken significant steps to reduce our operating expenses, we have also increased sales and marketing costs to drive growth in the business. We continued to generate a

Table of Contents

negative cash flow during the year; however, our use of cash was reduced over the last two years. Our losses from continuing operations have gone from $2.2 million in 2007 to net loss of $0.5 million in 2008. We were able to avoid new debt and improve our gross margins in 2008.

2009 Outlook

We will work to continue to leverage our core instrument business. Challenges exist for WAVE System and consumable growth in traditional markets. We continue to look for emerging markets and novel applications to provide us with new opportunities for our WAVE System. We intend to continue to look for opportunities to diversify into new markets, including the personalized medicine market (particularly in oncology), where the sensitivities of our technologies are essential. In addition, we are also selling refurbished WAVE Systems in order to allow an opportunity for customers that may not be able to afford the cost of a new system. Additionally, we have developed credibility and momentum with third-party platforms that will allow us to leverage on our direct sales force and distribution network.

On the Laboratory Services front, we have completed cancer pathway gene mutation projects for a number of high visibility pharmaceutical companies which have continued to demonstrate the unique sensitivity of detecting DNA mutations in cancer genes which are central to effective therapy selection for current and future cancer therapeutics. To compliment our mutation detection expertise, we also have strengthened our capabilities in biomarker development and mutation detection in novel cancer pathway genes which will aid in the development of true personalized medicine for our pharmaceutical partners. We have also increased our efforts to expand our Molecular Clinical Reference Laboratory sales by hiring additional experienced field sales representatives and adding new tests to our suite of products.

Although we have experienced declining sales and recurring net losses (resulting in an accumulated deficit of $128.3 million at December 31, 2008), management believes existing sources of liquidity, including cash and cash equivalents of $4.8 million, are sufficient to meet expected cash needs during 2009. We will need to increase net sales in order to meet our liquidity needs on a long-term basis. In future periods, there is no assurance that we will be able to increase net sales or further reduce expenses and, accordingly, we may not have sufficient sources of liquidity to continue operations indefinitely. The current economic conditions may have a negative impact on our net sales in 2009. The tightening of the credit market may make it difficult for customers to purchase instruments due to lack of funding. In the event we do not have net sales growth, we will continue to make cost reductions to align our expenses with our net sales.

Table of Contents

Results of Continuing Operations

Years Ended December 31, 2008 and 2007

Net Sales. Net sales for the years ended December 31, 2008 and 2007 consisted of the following (dollars in thousands):

	2008	2007	Change $	Change %
Instrument Related Business:				
Bioinstruments	$ 11,195	$ 11,551	$ (356)	(3)%
Bioconsumables	8,549	8,901	(352)	(4)%
	19,744	20,452	(708)	(3)%
Laboratory Services:				
Molecular Clinical Reference Laboratory Services	2,870	1,688	1,182	70%
Pharmacogenomics Research Services	1,379	1,036	343	33%
	4,249	2,724	1,525	56%
Total Net Sales	$ 23,993	$ 23,176	$ 817	4%

Bioinstrument sales consist of sales of our WAVE System and associated equipment that we manufacture or assemble, net sales from service contracts that we enter into with purchasers of our instruments, as well as sales of instruments we distribute for other manufacturers (OEM equipment). We also sell refurbished WAVE Systems in order to access customers that may not be able to afford new systems. We sold 30 WAVE Systems during the year ended December 31, 2008 compared to 56 systems during 2007. This decrease resulted from lower demand in all major geographic markets and among both research and diagnostic users particularly in our largest markets. Demand for WAVE Systems has been affected by significant competitive challenges from traditional (i.e. sequencing) and evolving technologies. Offsetting the WAVE decline was our OEM instrument sales. We sold 13 OEM instruments during the year ended December 31, 2008 compared to only 8 in the same period of 2007.

Bioconsumable net sales decreased during the year ended December 31, 2008 compared to 2007. The primary decrease in consumables is due to lower usage of the WAVE consumables in Europe and the negative impact of the foreign currency exchange rates, primarily the Great British Pound to the US Dollar. The active WAVE System base has declined from 2007 to 2008 which causes a decrease in the demand for our consumable products.

Laboratory Services net sales increased during the year ended December 31, 2008 compared to 2007 by approximately $1.5 million. Laboratory Services sales includes both the Molecular Clinical Reference Laboratory Services and the Pharmacogenomics Research Services. The Molecular Clinical Reference Laboratory Services net sales of $2.9 million increased 70% over the year ended December 31, 2007. The Molecular Clinical Reference Laboratory Services net sales growth is attributable to the increased sales focus. We have increased the number of sales employees during 2008. The number of customers has increased as well as the net sales penetration per account. The Pharmacogenomics Research Services net sales of $1.4 million during 2008 increased 33% over the year ended December 31, 2007. Our sales focus for the Pharmacogenomics Research Services has been

Table of Contents

to increase the number of sales representatives to allow them to build relationships with the pharmaceutical companies and government agencies. The growth in 2008 net sales is attributable to three large customers which accounted for 85% of the net sales. All of these customers had an increase in the amount of work performed from 2007 to 2008.

Costs of Goods Sold. Costs of goods sold include 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, test outsourcing fees, rent, supplies and depreciation) associated with our Laboratory Services operations. Cost of goods sold for the years ended December 31, 2008 and 2007 consisted of the following (dollars in thousands):

			Change	
	2008	**2007**	**$**	**%**
Instrument Related Business:				
Bioinstruments	$ 4,046	$ 4,318	$ (272)	(6)%
Bioconsumables	3,982	4,054	(72)	(2)%
	8,028	8,372	(344)	(4)%
Laboratory Services:				
Molecular Clinical Reference Laboratory Services	1,647	1,156	491	42%
Pharmacogenomics Research Services	670	955	(285)	(30)%
	2,317	2,111	206	10%
Total Cost of Goods Sold	$ 10,345	$ 10,483	$ (138)	(1)%

Gross profit equaled $13.7 million or 57% of total net sales during the year ended December 31, 2008 compared to $12.7 million and 55% during the same period of 2007. The increase in gross profit as a percent of net sales is largely attributable to changes in the composition of products sold. Margins on bioinstruments improved from 63% to 64% from 2007 to 2008 due to the change in the mix of instruments sold. Margins on bioconsumables decreased from 54% in 2007 to 53% in 2008 largely due to the impact on net sales. The Laboratory Services business segment improved margins for the year ended December 31, 2008 to 45% as compared to 23% for the year ended December 31, 2007 due primarily to leveraging a fixed cost structure with increased net sales and consolidation of our Pharmacogenomic Research Services from Gaithersburg to Omaha in 2008.

Selling, General and Administrative Expenses. Selling, general and administrative expenses primarily include personnel costs, marketing, travel and entertainment costs, professional fees, facility costs and foreign currency revaluation. These costs decreased as a percentage of net sales from 49% in 2007 to 45% in 2008. These reductions were primarily due to gains from foreign currency revaluation which decreased operating expenses by approximately $1.0 million for the year ended December 31, 2008. SG&A would have been $11.8 million excluding the foreign currency revaluation gain for the year ended December 31, 2008. In the year ended December 31, 2007 foreign currency revaluation adjustments increased operating expenses by $0.1 million. SG&A would have been $11.4 million excluding the foreign currency revaluation expense for the year ended December 31, 2007.

Research and Development Expenses. Research and development expenses primarily include personnel costs, legal fees, supplies, and facility costs. These costs totaled $2.4 million during the year

Table of Contents

ended December 31, 2008 compared to $3.0 million during the same period of 2007, a decrease of $0.6 million or 19%. 2007 research and development expenses included $0.4 in legal and collaboration fees that were not needed in 2008. As a percentage of net sales, research and development expenses totaled 10% and 13% of net sales during the year ended December 31, 2008 and 2007 respectively. We expect to continue to invest approximately 10% to 12% of our net sales in research and development expenses. Research and development expenses are expensed in the year in which they are incurred.

Restructuring Charges. We recorded restructuring charges of $0.1 million in 2008 related to the additional lease expense on the shut down of the Paris facility due to changes in the market place causing our inability to sublease it of $0.3 million, which is offset by reserves for fixed assets and severance of $0.2 million not utilized. In addition, we took restructuring charges of less than $0.1 million related to severance due to the relocation of the Pharmacogenomics Laboratory from Gaithersburg, Maryland to Omaha, Nebraska. We recorded restructuring charges totaling $1.5 million during 2007. The restructuring charges were comprised of severance payments totaling $.9 million, facility closure costs totaling $.5 million and other costs totaling $.1 million. Restructuring charges related to three events: A restructuring plan completed in the second quarter of 2007, which resulted in the termination of four employees in Omaha, Nebraska; the closure of the Cramlington, England bioconsumable production facility and consolidation of this production in the Omaha, Nebraska facility; and the closure of an administrative office outside Paris, France and combining those operations with those functions performed elsewhere in the organization. These restructuring charges do not relate to any activities taken by us during 2007 or prior periods in connection with the termination of our Nucleic Acids business segment. All costs associated with those activities are included in income (loss) from discontinued operations.

Goodwill. We review goodwill for impairment on an annual basis. As part of our 2008 impairment assessment we determined that goodwill was impaired and, accordingly, it was written off. The goodwill is attached to the WAVE related business. See goodwill discussion in Footnote B.

Other Income (Expense). Other income during the year ended December 31, 2008 was $0.1 million while other income for the year ended December 31, 2007 was $1.4 million. In 2008 other income mainly included interest income. In 2007 we sold an investment in equity securities. On May 10, 2007, we sold 250,000 shares of stock in Pinnacle Pharmaceuticals, Inc. which we acquired in connection with a prior business acquisition. Gross proceeds realized from the sale were $0.9 million and because our carrying cost in this stock was $0, the sale resulted in a gain of $0.9 million. Other income also included $0.2 million in insurance proceeds related to equipment destroyed in the fire at our Cramlington facility and $0.3 million of interest income we received from cash and cash equivalents invested in overnight instruments. Other income was offset by a nominal amount of interest expense in 2007.

Income Tax Expense. Income tax expense recorded during the years ended December 31, 2008 and 2007 related to income taxes in states, foreign countries and other local jurisdictions and totaled $0.2 million in each year. A net deferred tax asset was recorded during 2008 relating to the UK income taxes of $0.1 million. Due to our cumulative losses and inability to utilize any additional losses as carrybacks, we did not provide for an income tax benefit during the year ended December 31, 2008 based on our determination that it was more likely than not that such benefits would not be realized. We will 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

Table of Contents

at such time. Our net operating loss carryforwards from continuing and discontinued operations of $109.3 million will expire at various dates from 2009 through 2028, if not utilized. We also had state income tax loss carryforwards from continuing and discontinued operations of $41.9 million at December 31, 2008. We plan to do a study related to our net operating loss carryforwards in 2009 to determine if these have been limited due to change of control provisions. These carryforwards will also expire at various dates if not utilized.

Results of Discontinued Operations

On December 22, 2005, the Company s Directors voted to either sell or close and liquidate the Nucleic Acids operating segment, which consists primarily of a manufacturing facility in Glasgow, Scotland. This decision was made after an evaluation of, among other things, short and long-term sales projections for products sold by this operating segment, including estimates of 2006 sales to the operating segment s largest customer. In conjunction with the decision to exit this operating segment, the Company recorded impairment charges of $.4 million and $8.0 million in 2006 and 2005, respectively, consisting of valuation adjustments to reflect the carrying value of the related net assets at estimated fair market value. Accordingly, the results of this business segment are shown as discontinued operations for all periods presented. Expenses that are not directly attributable to this operating segment or are considered corporate overhead have not been allocated to this segment in determining the results from discontinued operations.

Income attributable to these discontinued operations during the year ended December 31, 2007 was less than $0.1 million. No income or loss from discontinued operations has been reported in 2008.

Assets associated with the Nucleic Acids segment consisted principally of our facility in Glasgow, Scotland. During 2007 we completed the sale of the Glasgow facility and the associated equipment for $2.9 million, net of selling expenses, which resulted in a gain of $.1 million.

Liquidity and Capital Resources

Our working capital positions at December 31, 2008 and 2007 were as follows (in thousands):

	December 31,		
	2008	**2007**	**Change**
Current assets (including cash and cash equivalents of $4,771 and $5,723, respectively)	$ 15,585	$ 16,163	$ (578)
Current liabilities	4,235	4,847	(612)
Working capital	$ 11,350	$ 11,316	$ 34

We have historically operated at a loss and have not consistently generated sufficient cash from operating activities to cover our operating and other cash expenses. In 2008 we had a net loss of $0.5 million and needed to use $0.4 million for operating expenses and $0.4 million in investing activities. While we have been able to historically finance our operating losses through borrowings or from the issuance of additional equity, we currently have no borrowings and have no plans to issue additional equity securities for this purpose. At December 31, 2008 and December 31, 2007, we had cash and cash equivalents of $4.8 and $5.7 million, respectively. While we believe that existing sources of liquidity are sufficient to meet expected cash needs during 2009, we will need to increase our net sales,

Table of Contents

focus on receivables and inventory management or further reduce our operating expenses in order to be assured of meeting our liquidity needs on a long-term basis. However, we cannot assure you that we will be able to increase our net sales or further reduce our expenses and, accordingly, we may not have sufficient sources of liquidity to continue our operations indefinitely.

Analysis of Cash Flows

Years Ended December 31, 2008 and 2007

Net Change in Cash and Cash Equivalents. Cash and cash equivalents decreased $1.0 million during the year ended December 31, 2008 as a result of net cash of $0.4 million being used by operating activities, changes in foreign currency exchange rates of $0.1 million and net cash used in investing activities of $0.4 million.

Cash Flows Used In Operating Activities. Cash flows used in operating activities totaled $0.4 million during the year ended December 31, 2008 compared to $2.9 million during the same period of 2007. The use in 2008 resulted from an increase in accounts receivable of $1.1 million and higher inventory levels of $0.7 million related primarily to the acquisition of OEM Equipment and a net loss of $0.5 million offset somewhat by non-cash charges. Non-cash charges consisted of depreciation and amortization of $0.9 million, goodwill impairment of $0.6 million and non-cash stock based compensation of $0.4 million. The use in 2007 resulted primarily from our net loss of $2.1 million, higher inventory levels of $1.4 million related to the acquisition of OEM Equipment and gain on investment securities of $0.9 million and changes in other assets and liabilities totaling $0.9 million. This was offset by accounts receivable collection of $1.5 million and non-cash charges of $1.1 million. Non-cash charges consisted primarily of depreciation and amortization, and non-cash stock based compensation.

Cash Flows Used In Investing Activities. Cash flows used in investing activities totaled $0.4 million during the year ended December 31, 2008 compared to $3.1 million of cash flow provided by investing activities during the same period of 2007. Cash flows used in investing activities in 2008 consisted primarily of $0.3 million for purchases of property and equipment. Cash flows provided by investing activities in 2007 consisted primarily of sales proceeds from our Glasgow facility and equipment of $2.9 million and proceeds from the sale of an investment in equity securities of $0.9 million. This was offset by purchases of $0.7 million of property and equipment.

Off Balance Sheet Arrangements

At December 31, 2008 and 2007, we did not have any relationships with unconsolidated entities or financial partnerships, such as entities often referred to as structured finance or special purpose entities, which would have been established for the purpose of facilitating off-balance sheet arrangements or other contractually narrow or limited purposes.

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 they require significant or complex judgments on the part of management. Our judgments and estimates are based on experience and assumptions that we believe are reasonable under the circumstances. Further,

Table of Contents

we evaluate our judgments and estimates from time to time as circumstances change. Actual financial results based on judgment or estimates may vary under different assumptions or circumstances. The following are certain critical accounting policies that may involve the use of judgment or estimates.

Allowance for Doubtful Account. Accounts receivable are shown net of an allowance for doubtful accounts. In determining an allowance for doubtful accounts, we consider the age of the accounts receivable, customer credit history, customer financial information, reasons for non-payment, and our knowledge of the customer. If our customers financial condition were to deteriorate, resulting in a change in their ability to make payment, additional allowances may be required.

Inventories. Inventories are stated at the lower of cost or market. Cost is computed using standard costs for finished goods and average or latest actual cost for raw materials and work in process. 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.

Depreciation and Amortization of Long-Lived Assets. Our long-lived assets consist primarily of equipment, patents, intellectual property and capitalized software development costs. We believe the useful lives we assigned to these assets are reasonable. If our assumptions about these assets change as a result of events or circumstances and we believe the assets may have declined in value we may record impairment charges resulting in an increase to operating expenses. Property and equipment are carried at cost. Depreciation and amortization are computed using the straight-line method over the estimated useful lives of the related assets ranging from 1 to 10 years. We capitalize legal costs and filing fees associated with obtaining patents on our 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. Intellectual property, which is purchased technology, is recorded at cost and is amortized over its estimated useful life.

Impairment of Long-Lived Assets. We evaluate goodwill for impairment on an annual basis. We assess the recoverability of long-lived assets whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. These computations utilize judgments and assumptions inherent in our estimate of future undiscounted and discounted cash flows to determine recoverability of these assets. As part of our 2008 impairment assessment, we determined that goodwill was impaired, and accordingly, it was written off.

Net Sales Recognition. Revenue on the sales of our instrument and bioconsumable products is 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. Our normal sales terms do not provide for the right of return unless the product is damaged or defective. Net Sales from certain services associated with our 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. Net sales recognition for our Molecular Clinical Reference Laboratory is on an individual test basis and takes place when the test report is compete, all sign offs have been completed and the report is sent to the client net of reimbursement allowance for insurance, Medicare

Table of Contents

and Medicaid expected reimbursement. In our Pharmacogenomics research group we recognize net sales based on proportionate performance measurement for each project. 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.

Recently Issued Accounting Pronouncements

In July 2006, the FASB issued Interpretation No. 48, *Accounting for Uncertainty in Income Taxes* (FIN 48). FIN 48 applies to all tax positions within the scope of Statement 109 and clarifies when and how to recognize tax benefits in the financial statements with a two-step approach of recognition and measurement. We adopted FIN 48 on January 1, 2007. Under FIN 48, tax benefits are recognized only for tax positions that are more likely than not to be sustained upon examination by tax authorities. The amount recognized is measured as the largest amount of benefit that is more likely than not to be realized upon ultimate settlement. Unrecognized tax benefits are tax benefits claimed in our tax returns that do not meet these recognition and measurement standards.

In September 2006, the FASB issued Statement No. 157, *Fair Value Measurement* (FAS 157). While this Statement does not require new fair value measurements, it provides guidance on applying fair value and expands required disclosures. FAS 157 is effective as of January 1, 2008 for financial assets and financial liabilities within its scope. In February 2008, the FASB issued FASB Staff Position No. FAS 157-2 Effective Date of FASB Statement No. 157 (FSP FAS 157-2), which defers the effective date of FAS 157 for all non-financial assets and non-financial liabilities, except those that are recognized or disclosed at fair value in the financial statements on a recurring basis (at least annually), for fiscal years beginning after November 15, 2008 and interim periods within those fiscal years for items within the scope of FSP FAS 157-2. We have implemented FAS 157 and FSP FAS 157-2.

In February 2007, the FASB issued Statement No. 159, *The Fair Value Option for Financial Assets and Financial Liabilities* (FAS 159). This Statement, which expands fair value measurement, permits entities to choose to measure many financial instruments and certain other items at fair value. We implemented FAS 159 on January 1, 2008. We currently have no financial assets or financial liabilities for which FAS 159 would be applicable.

In December 2007, the FASB issued FAS No. 141(R) Business Combinations (FAS 141(R)). FAS 141(R) changes several underlying principles in applying the purchase method of accounting. Among the significant changes, FAS 141(R) requires a redefining of the measurement date of a business combination, expensing direct transaction costs as incurred, capitalizing in-process research and development costs as an intangible asset and recording a liability for contingent consideration at the measurement date with subsequent re-measurements recorded in the results of operations. FAS 141(R) also requires that costs for business restructuring and exit activities related to the acquired company will be included in the post-combination financial results of operations and also provides new guidance for the recognition and measurement of contingent assets and liabilities in a business combination. In addition, FAS 141(R) requires several new disclosures, including the reasons for the business combination, the factors that contribute to the recognition of goodwill, the amount of acquisition related third-party expenses incurred, the nature and amount of contingent consideration, and a discussion of pre-existing relationships between the parties. FAS 141(R) is effective as of January 1, 2009. We currently do not have any plans for a business combination, therefore FAS No. 141 (R) is expected to have no impact on our consolidated financial statements.

Table of Contents

In December 2007, the FASB issued FAS No. 160 Noncontrolling Interests in Consolidated Financial Statements, an Amendment of ARB No. 51 , (FAS 160). FAS 160 establishes accounting and reporting standards for the noncontrolling interest in a subsidiary and for the deconsolidation of a subsidiary. FAS 160 requires noncontrolling interests in subsidiaries initially to be measured at fair value and classified as a separate component of equity. FAS 160 also requires a new presentation on the face of the consolidated financial statements to separately report the amounts attributable to controlling and non-controlling interests. FAS 160 is effective as of January 1, 2009. We do not expect FAS No. 160 to have an impact on our consolidated financial statements.

In April 2008, the FASB issued FASB Staff Position No. FAS 142-3, Determination of the Useful Life of Intangible Assets (FSP No. FAS 142-3). FSP No. FAS 142-3 requires companies estimating the useful life of a recognized intangible asset to consider their historical experience in renewing or extending similar arrangements or, in the absence of historical experience, to consider assumptions that market participants would use about renewal or extension as adjusted for FAS No. 142 s, Goodwill and Other Intangible Assets, entity-specific factors. FSP No. FAS 142-3 is effective for fiscal years beginning after December 15, 2008 (fiscal 2009 for the Company). We are currently assessing the impact, if any, of FSP No. FAS 142-3 on our consolidated financial statements.

In May 2008, the FASB issued Statement of Financial Accounting Standards No. 162, The Hierarchy of Generally Accepted Accounting Principles (FAS 162). This Standard identified the sources of accounting principles and the framework for selecting the principles to be used in the preparation of financial statements of nongovernmental entities that are presented in conformity with generally accepted accounting principles. FAS 162 directs the hierarchy to the entity, rather than the independent auditors, as the entity is responsible for selecting accounting principles for financial statements that are presented in conformity with generally accepted accounting principles. FAS 162 is effective November 15, 2008 and did not have an impact on our financial statements.

In June 2008 the FASB issued Abstract Issue No. 07-5, Determining Whether an Instrument (or Embedded Feature) is Indexed to an Entity s Own Stock (EITF 07-5). EITF 07-5 clarifies the exceptions that are allowable under FAS 133, Accounting for Derivative Instruments and Hedging Activities in paragraph 11A. Under FAS 133 most derivatives are recorded as assets or liabilities with changes in their fair value being recorded through earnings. One of the exceptions outlined in paragraph 11A of FAS 133 states that if a derivative is indexed to the entity s own stock and is classified in shareholder s equity, the derivative accounting is avoided. EITF 07-5 clarifies whether or not a derivative is indexed to an entity s own stock. EITF 07-5 is effective for fiscal years beginning after December 15, 2008. We are currently assessing the impact, if any, of EITF 07-5 on the consolidated 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 reported period. In addition, estimates and assumptions associated with the determination of the fair value of certain assets and related impairments and the determination of goodwill impairments require considerable judgment by management. Actual results could differ from the estimates and assumptions used in preparing these financial statements.

Table of Contents

Impact of Inflation

We do not believe that price inflation had a material adverse effect on our financial condition or results of operations during the periods presented.

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

Foreign Currency Translation Risk. During the last two fiscal years, our international sales have represented more than 50% of our net sales. These sales of products in foreign countries are mainly completed in either British Pounds Sterling or the Euro. Additionally, we have two wholly owned subsidiaries, Transgenomic Limited, and Cruachem Limited, whose operating currency is British Pounds Sterling and the Euro. Results of operation and the Balance Sheet are translated from the functional currency of the subsidiary, Great British Pounds, to our reporting currency of the US dollar. Results of operations for the Company s foreign subsidiaries are translated using the average exchange rate during the period. Assets and liabilities are translated at the exchange rate in effect at the balance sheet date. As a result we are subject to exchange rate risk. The foreign exchange rates have had large variances during 2008. At January 1, 2008 the Euro to GBP exchange rate was .73650 as compared to December 31, 2008 rate of .9740. The GBP to US Dollar exchange rate was 1.9970 at January 1, 2008 compared to 1.44790 at December 31, 2008. This is a decrease of 27%. These large changes in foreign exchange rates may negatively impact our business in 2009.

Table of Contents

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 subsidiaries as of December 31, 2008 and 2007, and the related consolidated statements of operations, stockholders equity, and cash flows for years then ended. These financial statements are the responsibility of the Company s management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the 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 audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Transgenomic, Inc. and subsidiaries as of December 31, 2008 and 2007, and the results of its their operations and their cash flows for years then ended, in conformity with U.S. generally accepted accounting principles.

We were not engaged to examine management s assessment of the effectiveness of Transgenomic, Inc. s internal control over financial reporting as of December 31, 2008, included in the accompanying Management s Report on Internal Control Over Financial Reporting and, accordingly, we do not express an opinion thereon.

/s/ McGladrey & Pullen, LLP

Omaha, Nebraska
March 26, 2009

Table of Contents

TRANSGENOMIC, INC. AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS

As of December 31, 2008 and 2007

(Dollars in thousands except per share data)

	2008	2007
ASSETS		
CURRENT ASSETS:		
Cash and cash equivalents	$ 4,771	$ 5,723
Accounts receivable (net of allowances for bad debts of $388 and $703, respectively)	5,385	5,095
Inventories	4,775	4,586
Prepaid expenses and other current assets	654	759
Total current assets	15,585	16,163
PROPERTY AND EQUIPMENT:		
Equipment	10,059	10,857
Furniture and fixtures	3,920	4,056
	13,979	14,913
Less: accumulated depreciation	(12,781)	(13,334)
	1,198	1,579
OTHER ASSETS:		
Goodwill		638
Other assets (net of accumulated amortization of $425 and $1,117, respectively)	773	710
	$ 17,556	$ 19,090
LIABILITIES AND STOCKHOLDERS EQUITY		
CURRENT LIABILITIES:		
Accounts payable	$ 905	$ 1,245
Other accrued expenses	2,810	3,152
Accrued compensation	520	450
Total current liabilities	4,235	4,847
Other long term liabilities	116	141
Total liabilities	4,351	4,988
STOCKHOLDERS EQUITY:		
Preferred stock, $.01 par value, 15,000,000 shares authorized, none outstanding		
Common stock, $.01 par value, 100,000,000 shares authorized, 49,189,672 shares outstanding	497	497
Additional paid-in capital	139,501	139,099
Accumulated other comprehensive income	1,470	2,274
Accumulated deficit	(128,263)	(127,768)
Total stockholders equity	13,205	14,102
	$ 17,556	$ 19,090

See notes to consolidated financial statements.

Table of Contents

TRANSGENOMIC, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF OPERATIONS

Years Ended December 31, 2008 and 2007

(Dollars in thousands except per share data)

	2008	2007
NET SALES	$ 23,993	$ 23,176
COST OF GOODS SOLD	10,345	10,483
Gross profit	13,648	12,693
OPERATING EXPENSES:		
Selling, general and administrative	10,795	11,466
Research and development	2,465	3,033
Restructuring charges	118	1,516
Goodwill Impairment	638	
	14,016	16,015
LOSS FROM OPERATIONS	(368)	(3,322)
OTHER INCOME:		
Interest income	74	270
Other, net	12	1,121
	86	1,391
LOSS BEFORE INCOME TAXES	(282)	(1,931)
INCOME TAX EXPENSE	213	243
LOSS FROM CONTINUING OPERATIONS	(495)	(2,174)
DISCONTINUED OPERATIONS:		
Income from discontinued operations net of income tax		67
INCOME FROM DISCONTINUED OPERATIONS		67
NET LOSS	$ (495)	$ (2,107)
BASIC AND DILUTED LOSS PER SHARE:		
From continuing operations	$ (0.01)	$ (0.04)
From discontinued operations		
	$ (0.01)	$ (0.04)
BASIC AND DILUTED WEIGHTED AVERAGE SHARES OUTSTANDING	49,189,672	49,189,672

See notes to consolidated financial statements.

Table of Contents

TRANSGENOMIC, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF STOCKHOLDERS EQUITY

Years Ended December 31, 2008 and 2007

(Dollars in thousands except per share data)

	Common Stock		Additional Paid in Capital	Accumulated Deficit	Accumulated Other Comprehensive Income (Loss)	Total
	Outstanding Shares	Par Value				
Balance, January 1, 2007	49,189,672	$ 497	$ 138,966	$ (125,525)	$ 2,100	$ 16,308
Other comprehensive income (loss):						
Net loss				(2,107)	(2,107)	(2,107)
FIN 48 Adjustment				(129)		(129)
Other, net				(7)	7	
Foreign currency translation adjustment					167	167
Comprehensive loss					(1,933)	
Non-cash stock based compensation			133			133
Balance, December 31, 2007	49,189,672	$ 497	$ 139,099	$ (127,768)	$ 2,274	$ 14,102
Other comprehensive income (loss):						
Net loss				(495)	(495)	(495)
Foreign currency translation adjustment					(804)	(804)
Comprehensive loss					(1,299)	
Non-cash stock based compensation			402			402
Balance, December 31, 2008	49,189,672	$ 497	$ 139,501	$ (128,263)	$ 1,470	$ 13,205

See notes to consolidated financial statements.

Table of Contents

TRANSGENOMIC, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF CASH FLOWS

Years Ended December 31, 2008 and 2007

(Dollars in thousands)

	2008	2007
CASH FLOWS USED IN OPERATING ACTIVITIES:		
Net loss	$ (495)	$ (2,107)
Adjustments to reconcile net loss to net cash flows (used in) operating activities:		
Depreciation and amortization	882	950
Non-cash stock based compensation	402	133
(Gain)/loss on sale of investment and assets	2	(1,034)
Goodwill Impairment	638	
Other		13
Changes in operating assets and liabilities:		
Accounts receivable	(1,114)	1,479
Inventories	(665)	(1,436)
Prepaid expenses and other current assets	(1)	(217)
Accounts payable	(212)	(576)
Accrued expenses	304	(144)
Other long term liabilities	15	
Deferred income taxes	(169)	
Net cash flows used in operating activities	(413)	(2,939)
CASH FLOWS PROVIDED BY (USED IN) INVESTING ACTIVITIES:		
Purchase of property and equipment	(325)	(720)
Change in other assets	(74)	(132)
Proceeds from asset sales		3,935
Net cash flows provided by (used in) investing activities	(399)	3,083
EFFECT OF FOREIGN CURRENCY EXCHANGE RATE CHANGES ON CASH	(140)	(289)
NET CHANGE IN CASH AND CASH EQUIVALENTS	(952)	(145)
CASH AND CASH EQUIVALENTS AT BEGINNING OF YEAR	5,723	5,868
CASH AND CASH EQUIVALENTS AT END OF YEAR	$ 4,771	$ 5,723
SUPPLEMENTAL CASH FLOW INFORMATION		
Cash paid during the year for:		
Interest	$	$ 5
Income taxes, net	71	178

See notes to consolidated financial statements.

Table of Contents

TRANSGENOMIC, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years Ended December 31, 2008 and 2007

A. BUSINESS DESCRIPTION

Business Description.

We provide innovative products for the purification and analysis of nucleic acids used in the life sciences industry for research focused on molecular genetics and diagnostics. We also provide genetic variation analytical services to the medical research, clinical and pharmaceutical markets. Net sales are categorized as Instrument Related Business and Laboratory Services.

Instrument Related Business:

- Bioinstruments. Our flagship product is the WAVE® System which has broad applicability to genetic variation detection in both molecular genetic research and molecular diagnostics. There is a worldwide installed base of over 1,440 WAVE Systems as of December 31, 2008. We also distribute bioinstruments produced by other manufacturers (OEM Equipment) through our sales and distribution network. Service contracts to maintain installed systems are sold and supported by technical support personnel.

- Bioconsumables. The installed WAVE base and some third party installed platforms generate a demand for consumables that are required for the continued operation of the bioinstruments. 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 SURVEYOR® Nuclease and a range of HPLC separation columns.

Laboratory Services:

- Molecular Clinical Reference Laboratory Services. The molecular clinical reference laboratory specializes in mitochondrial and molecular diagnostic testing including genetic testing for oncology, hematology and inherited disorders. Located in Omaha, Nebraska, the molecular clinical reference laboratory operates in a Good Laboratory Practices compliant environment and is certified under the Clinical Laboratory Improvement Amendment.

- Pharmacogenomics Research Services. Pharmacogenomics Research Services are provided by our Contract Research Organization located in Omaha, Nebraska. It specializes in pharmacogenomic, biomarker and mutation discovery research serving the pharmaceutical and biomedical industries worldwide for disease research, drug and diagnostic development and clinical trial support.

We previously operated a segment (the Nucleic Acids operating segment) that developed, manufactured and marketed chemical building blocks for nucleic acid synthesis. In the fourth quarter of 2005, we implemented a plan to exit the Nucleic Acids operating segment and during the three months ended March 31, 2007, we completed the sale of the remaining assets associated with this segment. Accordingly, the assets and results of the Nucleic Acids operating segment are reflected as discontinued operations for all periods presented in this filing.

Table of Contents

TRANSGENOMIC, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Years Ended December 31, 2008 and 2007

Although we have experienced declining sales and recurring net losses (resulting in an accumulated deficit of $128.3 million at December 31, 2008), management believes existing sources of liquidity, including cash and cash equivalents of $4.8 million, are sufficient to meet expected cash needs during 2009. Our business consolidation efforts have helped control our operating costs, however we will need to increase net sales in order to meet our liquidity needs on a long-term basis. If we cannot increase net sales, further reductions to operating expenses will be needed. In future periods, there is no assurance that we will be able to increase net sales or further reduce expenses and, accordingly, we may not have sufficient sources of liquidity to continue operations indefinitely.

B. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Principles of Consolidation.

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

Risks and Uncertainties.

Certain risks and uncertainties are inherent in 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.

1. 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 and the determination of goodwill impairments require considerable judgment by management. Actual results could differ from the estimates and assumptions used in preparing these financial statements.

2. Concentration of Revenue Risk.

For the year ended December 31, 2008 four customers each made up more than 10% of the Laboratory Services net sales. Combined they represent 56% of the Laboratory Services net sales.

Cash and Cash Equivalents.

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

Concentrations of Cash.

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.

Table of Contents

TRANSGENOMIC, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Years Ended December 31, 2008 and 2007

Accounts Receivable.

Accounts receivable are shown net of allowance for doubtful accounts. The following is a summary of activity for the allowance for doubtful accounts during the years ended December 31, 2008 and 2007:

	Dollars in Thousands			
	Beginning Balance	Additional Charges to Income	Deductions from Reserve	Ending Balance
Year Ended December 31, 2008	$ 703	$ 123	$ 438	$ 388
Year Ended December 31, 2007	$ 444	$ 753	$ 494	$ 703

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 may be greater than 90 days. Account receivables are carried at original invoice amount less an estimate made for doubtful receivables based on a review of all outstanding amounts on a monthly basis. We determine the allowance for doubtful accounts by regularly evaluating individual customer receivables and considering a customer s financial condition, credit history and current economic conditions. Account receivables are written off when deemed uncollectible. Recoveries of account receivables previously written off are recorded when received.

Inventories.

Inventories are stated at the lower of cost or market. Cost is computed using standard costs for finished goods and average or latest actual cost for raw materials and work in process.

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:

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 of property and equipment totaled $0.6 million and $0.8 million in 2008 and 2007 respectively.

Goodwill.

Statement of Financial Accounting Standards (FAS) No. 142, *Goodwill and Other Intangible Assets,* provides that goodwill will not be amortized, but will be tested for impairment annually. We perform this impairment analysis during the fourth quarter of each year or when a significant event

Table of Contents

TRANSGENOMIC, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Years Ended December 31, 2008 and 2007

occurs which may impact goodwill impairment. Impairment occurs when the carrying value is determined to be not recoverable thereby causing the carrying of the goodwill to exceed the fair value. If impaired, the asset s carrying value is reduced to its fair value. No impairment existed at December 31, 2007.

	Dollars in Thousands	
	2008	2007
Goodwill	$ 0	$ 638

Net sales in the WAVE related business, for which the goodwill is attached, have declined over 15% during the last four years ended December 31, 2008. We have made no significant investment to expand the offering or upgrade the current WAVE instrument.

Up and through 2007, we performed an analysis to determine the goodwill impairment based on the accounting guidance in place. FAS Statement 142 was used as the relevant guidance on this topic. The approach used to measure fair value of the WAVE business was the determination of the present value of future cash flows. This test method determined no impairment in the goodwill at December 31, 2007.

For our goodwill analysis we did take into effect the Statement No. 157, Fair Value Measurement guidance for the determination of Fair Value of a business. The change in our practice of analyzing goodwill results from the application of this statement as it related to the definition of fair value and the methods used to measure fair value. The statement clarifies that market participant assumptions include assumptions about risk. For example, the risk inherent in a particular valuation technique used to measure fair value (such as a pricing model) and/or the risks inherent in the inputs to the valuation technique. A fair value measurement should include an adjustment for risk if market participants (a potential buyer) would include one in pricing the potential acquisition of this piece of the business. In the market that exists today, a higher price for risk may typically be inherent in a buyer s decision to purchase a business, whether it be for cash or capital. A seller s standard , that asks how much one could get to sell this asset, has been used in determining the future cash flows.

Based on our analysis, goodwill is impaired at December 31, 2008 and was written off.

Other Assets.

Other assets include intellectual property, patents and other long-term assets.

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.

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.

Table of Contents

TRANSGENOMIC, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Years Ended December 31, 2008 and 2007

Each of these assets is treated as long-lived assets for purposes of FAS No. 144, which provides that long-lived assets will be tested for impairment on an annual basis or when a significant event occurs, which may impact impairment. We periodically review the carrying value of our long-lived assets to assess recoverability and impairment. We recorded no impairments during 2008 or 2007.

Other Assets. Other assets include US security deposits and deferred tax assets.

Stock Based Compensation.

All stock options awarded 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, 2008 had vesting periods of three years from date of grant. None of the stock options outstanding at December 31, 2008 are subject to performance or market-based vesting conditions.

We adopted FASB123(R), on January 1, 2006. FASB 123(R) requires us to 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 and is expensed ratably over the service period of the awards (generally the vesting period).

On December 28, 2005, our Directors approved a plan to accelerate the vesting of all outstanding stock options. Aside from the acceleration of the vesting date, the terms and the conditions of the stock option award agreements governing the underlying stock option grants remained unchanged. As a result of this plan, options to purchase approximately 1,081,845 shares became immediately exercisable. All such options were out-of-the-money and, accordingly, the accelerated vesting resulted in no compensation expense since there was no intrinsic value associated with these fixed awards at the date of modification. Accelerating the vesting of these options allowed us to avoid recognition of compensation expense associated with these options in future periods.

For the year ended December 31, 2008, we recorded compensation expense of $0.4 million within selling, general and administrative expense as a result of the vesting of options exercisable for the purchase of 1.7 million shares during the year. For the year ended December 31, 2007, we recorded compensation expense of $0.1 million within selling, general and administrative expense as a result of the vesting of options exercisable for the purchase of 1.4 million shares. As of December 31, 2008, there was $0.3 million of unrecognized compensation expense related to unvested stock options, which is expected to be recognized over a weighted average period of nearly three years.

The fair value of the options granted during 2008 was estimated on their respective grant dates using the Black-Scholes option pricing model. The Black-Scholes model was used with the following assumptions: risk-free interest rates of 1.55% to 3.99%, based on the U.S. Treasury yield in effect at the time of grant; dividend yields of zero percent; expected lives of 2 to 10 years, based on historical exercise activity behavior; and volatility of 62.92% to 95.35% for grants made during the year ended December 31, 2008 based on the historical volatility of our stock over a time that is consistent with the expected life of the option. A small group of senior executives hold the majority of the stock options and are expected to hold the options until they are vested therefore no forfeitures have been assumed.

Table of Contents

TRANSGENOMIC, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Years Ended December 31, 2008 and 2007

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.

Net Sales Recognition.

Net sales on the sales of products is 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 over the service period. At December 31, 2008 and December 31, 2007, deferred net sales mainly associated with our service contracts, included in the balance sheet in other current liabilities, was approximately $1.5 million and $1.6 million, respectively.

Net Sales from our Molecular Clinical Reference Laboratory Services are recognized on an individual test basis and takes place when the test report is completed, reviewed and sent to the client less the reserve for insurance, Medicare and Medicaid expected payment. There are no deferred net sales associated with our Molecular Clinical Reference Laboratory. In our Pharmacogenomics Research Services business segment, we recognize net sales based on a proportionate performance measurement for each project. At December 31, 2008 and 2007, deferred net sales associated with the pharmacogenomics research projects included in the balance sheet in other accrued expenses, was less than $0.1 million for each 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.

Foreign Currency Transactions.

Financial statements of subsidiaries outside the U.S. are measured using the local currencies as the functional currency. The adjustments to translate those amounts into U.S. dollars are accumulated

Table of Contents

TRANSGENOMIC, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Years Ended December 31, 2008 and 2007

in a separate account in stockholders equity and are included in accumulated other comprehensive income. Foreign currency revaluation gains or losses resulting from changes in currency exchange rates are included in the determination of net income. Foreign currency revaluation adjustments decreased both operating expenses and net loss by $1.0 million during the year ended December 31, 2008 and increased net loss and operating expenses by $0.1 million during the year ended December 31, 2007.

Comprehensive Income.

Accumulated other comprehensive income at December 31, 2008 and 2007 consisted of foreign currency translation adjustments, net of applicable tax of zero. We deem our foreign investments to be permanent in nature and do not provide for taxes on currency translation adjustments arising from converting investments in a foreign currency to U.S. dollars.

Earnings 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. Options, warrants and conversion rights pertaining to 11,524,786 and 12,583,879 shares of our common stock have been excluded from the computation of diluted earnings per share at December 31, 2008 and 2007, respectively. The options, warrants and conversion rights that were exercisable in 2007 and 2008 were not included because the effect would be anti-dilutive due to the net loss from continuing operations. As a result, none of our outstanding options, warrants or conversion rights affect the calculation of diluted earnings per share.

Recently Issued Accounting Pronouncements.

In July 2006, the FASB issued Interpretation No. 48, *Accounting for Uncertainty in Income Taxes* (FIN 48). FIN 48 applies to all tax positions within the scope of Statement 109 and clarifies when and how to recognize tax benefits in the financial statements with a two-step approach of recognition and measurement. We adopted FIN 48 on January 1, 2007. Under FIN 48, tax benefits are recognized only for tax positions that are more likely than not to be sustained upon examination by tax authorities. The amount recognized is measured as the largest amount of benefit that is more likely than not to be realized upon ultimate settlement. Unrecognized tax benefits are tax benefits claimed in our tax returns that do not meet these recognition and measurement standards.

In September 2006, the FASB issued Statement No. 157, *Fair Value Measurement* (FAS 157). While this Statement does not require new fair value measurements, it provides guidance on applying fair value and expands required disclosures. FAS 157 is effective as of January 1, 2008 for financial assets and financial liabilities within its scope. In February 2008, the FASB issued FASB Staff Position No. FAS 157-2 Effective Date of FASB Statement No. 157 (FSP FAS 157-2), which defers the effective date of FAS 157 for all non-financial assets and non-financial liabilities, except those that are recognized or disclosed at fair value in the financial statements on a recurring basis (at

Table of Contents

TRANSGENOMIC, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Years Ended December 31, 2008 and 2007

least annually), for fiscal years beginning after November 15, 2008 and interim periods within those fiscal years for items within the scope of FSP FAS 157-2. We have implemented FAS 157 and FSP FAS 157-2.

In February 2007, the FASB issued Statement No. 159, *The Fair Value Option for Financial Assets and Financial Liabilities* (FAS 159). This Statement, which expands fair value measurement, permits entities to choose to measure many financial instruments and certain other items at fair value. We implemented FAS 159 on January 1, 2008. We currently have no financial assets or financial liabilities for which FAS 159 would be applicable.

In December 2007, the FASB issued FAS No. 141(R) Business Combinations (FAS 141(R)). FAS 141(R) changes several underlying principles in applying the purchase method of accounting. Among the significant changes, FAS 141(R) requires a redefining of the measurement date of a business combination, expensing direct transaction costs as incurred, capitalizing in-process research and development costs as an intangible asset and recording a liability for contingent consideration at the measurement date with subsequent re-measurements recorded in the results of operations. FAS 141(R) also requires that costs for business restructuring and exit activities related to the acquired company will be included in the post-combination financial results of operations and also provides new guidance for the recognition and measurement of contingent assets and liabilities in a business combination. In addition, FAS 141(R) requires several new disclosures, including the reasons for the business combination, the factors that contribute to the recognition of goodwill, the amount of acquisition related third-party expenses incurred, the nature and amount of contingent consideration, and a discussion of pre-existing relationships between the parties. FAS 141(R) is effective as of January 1, 2009. We currently do not have any plans for a business combination, therefore FAS No.141 (R) is expected to have no impact on our consolidated financial statements.

In December 2007, the FASB issued FAS No. 160 Noncontrolling Interests in Consolidated Financial Statements, an Amendment of ARB No. 51 , (FAS 160). FAS 160 establishes accounting and reporting standards for the noncontrolling interest in a subsidiary and for the deconsolidation of a subsidiary. FAS 160 requires noncontrolling interests in subsidiaries initially to be measured at fair value and classified as a separate component of equity. FAS 160 also requires a new presentation on the face of the consolidated financial statements to separately report the amounts attributable to controlling and non-controlling interests. FAS 160 is effective as of January 1, 2009. We do not expect FAS No. 160 to have an impact on our consolidated financial statements.

In April 2008, the FASB issued FASB Staff Position No. FAS 142-3, Determination of the Useful Life of Intangible Assets (FSP No. FAS 142-3). FSP No. FAS 142-3 requires companies estimating the useful life of a recognized intangible asset to consider their historical experience in renewing or extending similar arrangements or, in the absence of historical experience, to consider assumptions that market participants would use about renewal or extension as adjusted for FAS No. 142 s, Goodwill and Other Intangible Assets, entity-specific factors. FSP No. FAS 142-3 is effective for fiscal years beginning after December 15, 2008 (fiscal 2009 for the Company). We are currently assessing the impact, if any, of FSP No. FAS 142-3 on our consolidated financial statements.

Table of Contents

TRANSGENOMIC, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Years Ended December 31, 2008 and 2007

In May 2008, the FASB issued Statement of Financial Accounting Standards No. 162, The Hierarchy of Generally Accepted Accounting Principles (FAS 162). This Standard identified the sources of accounting principles and the framework for selecting the principles to be used in the preparation of financial statements of nongovernmental entities that are presented in conformity with generally accepted accounting principles. FAS 162 directs the hierarchy to the entity, rather than the independent auditors, as the entity is responsible for selecting accounting principles for financial statements that are presented in conformity with generally accepted accounting principles. FAS 162 is effective November 15, 2008 and did not have an impact on our financial statements.

In June 2008 the FASB issued Abstract Issue No. 07-5, Determining Whether an Instrument (or Embedded Feature) is Indexed to an Entity s Own Stock (EITF 07-5). EITF 07-5 clarifies the exceptions that are allowable under FAS 133, Accounting for Derivative Instruments and Hedging Activities in paragraph 11A. Under FAS 133 most derivatives are recorded as assets or liabilities with changes in their fair value being recorded through earnings. One of the exceptions outlined in paragraph 11A of FAS 133 states that if a derivative is indexed to the entity s own stock and is classified in shareholder s equity, the derivative accounting is avoided. EITF 07-5 clarifies whether or not a derivative is indexed to an entity s own stock. EITF 07-5 is effective for fiscal years beginning after December 15, 2008. We are currently assessing the impact, if any, of EITF 07-5 on the consolidated financial statements.

C. DISCONTINUED OPERATIONS

In the fourth quarter of 2005, we implemented a plan to exit the Nucleic Acids operating segment. Accordingly, the results of this business segment are shown as discontinued operations for all periods presented. Expenses that are not directly identified to the Nucleic Acids operating segment or that are considered corporate overhead have not been allocated in arriving at the loss from discontinued operations. During the quarter ended March 31, 2007, we completed the sale of the Glasgow facility and the associated equipment for $2.9 million, net of selling expenses, which resulted in a gain of $0.1 million. No income or loss has been reported in 2008.

There are no assets or liabilities associated with the former Nucleic Acids operating segment at December 31, 2008 or 2007.

D. RESTRUCTURING CHARGES

We recorded restructuring charges of $0.1 million in 2008 related to the additional lease expense on the shut down of the Paris facility due to changes in the market place causing our inability to sublease it of $0.3 million which is offset by reserves for fixed assets and severance of $0.2 million not utilized. We have a reserve totaling $0.2 million in other accrued expenses at December 31, 2008 related to the Paris, France facility. These costs are related to our instrument related segment. In addition, we took restructuring charges of less than $0.1 million related to severance due to the relocation of the laboratory from Gaithersburg, Maryland to Omaha, Nebraska. These costs are related to our laboratory services segment.

Table of Contents

TRANSGENOMIC, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Years Ended December 31, 2008 and 2007

We recorded restructuring charges totaling $1.5 million during 2007. The restructuring charges were comprised of severance payments totaling $.9 million, facility closure costs totaling $.5 million and other costs totaling $.1 million. Restructuring charges related to three events: A restructuring plan completed in the second quarter of 2007, which resulted in the termination of four employees in Omaha, Nebraska; the closure of the Cramlington, England bioconsumable production facility and consolidation of this production in the Omaha, Nebraska facility; and the closure of an administrative office outside Paris, France and combining those operations with those functions performed elsewhere in the organization. These restructuring charges are for our instrument related segment.

These restructuring charges do not relate to any activities taken by us during 2007 or prior periods in connection with the termination of our Nucleic Acids business segment. All costs associated with those activities are included in income (loss) from discontinued operations.

E. INVENTORIES

Inventories consisted of the following:

	Dollars in Thousands	
	December 31,	December 31,
	2008	2007
Finished goods	$ 2,911	$ 3,123
Raw materials and work in process	1,658	1,370
Demonstration inventory	206	93
	$ 4,775	$ 4,586

F. OTHER ASSETS

Finite lived intangible assets and other assets consisted of the following:

	Dollars in Thousands					
	December 31, 2008			December 31, 2007		
	Cost	Accumulated Amortization	Net Book Value	Cost	Accumulated Amortization	Net Book Value
Intellectual property	$ 310	$ 195	$ 115	$ 865	$ 715	$ 150
Patents	679	230	449	659	185	474
Other	209		209	303	217	86
Total	$ 1,198	$ 425	$ 773	$ 1,827	$ 1,117	$ 710

During 2008 we wrote off several license agreements that were terminated and which were fully amortized. Other assets include US security deposits and deferred tax assets.

Amortization expense for intangible assets was less than $0.1 million during both years ended December 31, 2008 and 2007. Amortization expense for intangible assets is expected to be approximately $.1 million in each of years 2009 through 2013.

Table of Contents

TRANSGENOMIC, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Years Ended December 31, 2008 and 2007

G. COMMITMENTS AND CONTINGENCIES

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

We lease certain equipment, vehicles and operating facilities under non-cancellable operating leases that expire on various dates through 2014. The future minimum lease payments required under these leases are approximately $0.9 million in 2009, $0.9 million in 2010, $0.6 million in 2011, $0.3 million in 2012, and $0.1 million thereafter. Rent expense for continuing operations related to operating leases for the years ended December 31, 2008 and 2007 was $0.8 million and $1.1 million, respectively.

At December 31, 2008, firm commitments to vendors to purchase components used in WAVE Systems and instruments manufactured by others totaled $0.3 million.

Table of Contents

TRANSGENOMIC, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Years Ended December 31, 2008 and 2007

H. INCOME TAXES

The Company s provision for income taxes for the years ended December 31, 2008 and 2007 relates to income taxes in states, foreign countries and other local jurisdictions and differs from the amounts determined by applying the statutory Federal income tax rate to loss before income taxes for the following reasons:

	Dollars in Thousands	
	2008	2007
Benefit at federal rate	$ (96)	$ (648)
Increase (decrease) resulting from:		
State income taxes net of federal benefit	(65)	(101)
Foreign subsidiary tax rate difference	(67)	(29)
Research and development tax credit		
Other net	(70)	231
Valuation allowance	511	790
Current income tax expense	$ 213	$ 243

	(Dollars in Thousands)
	2008
Federal:	
Current	$
Deferred	
Total Federal	$
State:	
Current	$
Deferred	
Total State	$
Foreign:	
Current	$ 318
Deferred	(105)
Total Foreign	$ 213
Total Tax Provision	$ 213

Table of Contents

TRANSGENOMIC, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Years Ended December 31, 2008 and 2007

The Company s deferred income tax asset from continuing and discontinued operations at December 31, 2008 and 2007 is comprised of the following temporary differences:

	Dollars in Thousands	
	2008	**2007**
Net operating loss carryforward	$ 39,449	$ 39,434
Research and development credit carryforwards	1,340	1,340
Deferred net sales	253	256
Accrued vacation	86	59
Other	241	790
	41,369	41,879
Less valuation allowance	(41,264)	(41,879)
	$ 105	$

At December 31, 2008, we had total unused federal tax net operating loss carryforwards from continuing and discontinued operations of $109.3 million of which $3.7 million expires in 2009, $2.9 million expires in 2010, $.9 million expires in 2011, $3.4 million expires in 2012, $1.8 million expires in 2018, $8.2 million expires in 2019, $9.7 million expires in 2020, $8.2 million expires in 2021, $16.9 million expires in 2022, $16.2 million expires in 2023, $17.4 million expires in 2024, $8.2 million expires in 2025, $6.8 million expires in 2026, $3.4 million expires in 2027 and $1.6 million expires in 2028. Of these federal net operating loss carryforwards, $10.0 million were obtained in the acquisition of Annovis, Inc. and may be subject to certain restrictions. At December 31, 2008, we had unused state tax net operating loss carryforwards from continuing and discontinued operations of approximately $41.9 million that expire at various times beginning in 2009. At December 31, 2008, we had unused research and development credit carryforwards from continuing and discontinued operations of $1.3 million that expire at various times between 2009 and 2024. A net deferred tax asset was recorded during 2008 related to the UK income taxes for $0.1 million. A valuation allowance has been provided for the remaining deferred tax assets, due to the cumulative losses in recent years and an inability to utilize any additional losses as carrybacks. We will continue to assess the recoverability of deferred tax assets and the related valuation allowance. To the extent we begin to generate income in future years and it is determined that such valuation allowance is no longer required, the tax benefit of the remaining deferred tax assets will be recognized at such time.

In July 2006, the FASB issued Interpretation No. 48, *Accounting for Uncertainty in Income Taxes* (FIN 48). FIN 48 applies to all tax positions within the scope of Statement 109 and clarifies when and how to recognize tax benefits in the financial statements with a two-step approach of recognition and measurement. The Company adopted FIN 48 on January 1, 2007. Under FIN 48, tax benefits are recognized only for tax positions that are more likely than not to be sustained upon examination by tax authorities. The amount recognized is measured as the largest amount of benefit that is more than likely not to be realized upon ultimate settlement. Unrecognized tax benefits are tax benefits claimed in the Company s tax returns that do not meet these recognition and measurement standards.

Upon adoption of FIN 48 on January 1, 2007, the Company recognized a $0.1 million increase in the liability for unrecognized tax benefits. This increase in the liability was offset by an increase to the

Table of Contents

TRANSGENOMIC, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Years Ended December 31, 2008 and 2007

January 1, 2007 balance in the accumulated deficit. The gross amount of unrecognized tax benefits as of the date of adoption was $0.1 million, all of which would affect the effective tax rate if recognized. Included in this amount is an aggregate of $0.1 million of interest and penalties. The Company s policy is to recognize interest and penalties directly related to income taxes as part of income tax expense.

The Company files income tax returns in the U.S. federal jurisdiction, various U.S. state jurisdictions and various foreign jurisdictions. The Company has statutes of limitation open for Federal income tax returns related to tax years 2005 and 2007. The Company has state income tax returns subject to examination primarily for tax years 2005 through 2007. Open tax years related to foreign jurisdictions remain subject to examination. The Company s primary foreign jurisdiction is the United Kingdom which has open tax years for 2005 through 2007.

During the year ended December 31, 2008, there were no material changes to the liability for uncertain tax positions.

I. EMPLOYEE BENEFIT PLAN

We maintain an employee 401(k) retirement savings plan that allows for voluntary contributions into designated investment funds by eligible employees. We match the employees contributions at the rate of 50% on the first 6% of contributions. We may, at the discretion of our Board of Directors, make additional contributions on behalf of the plan s participants. Contributions to the 401(k) plan were $0.2 million for each of the years ended December 31, 2008 and 2007.

J. STOCKHOLDERS EQUITY

Common Stock.

The Company s Board of Directors is authorized to issue up to 100,000,000 shares of common stock, from time to time, as provided in a resolution or resolutions adopted by the Board of Directors.

Common Stock Warrants.

No common stock warrants were issued or exercised during 2008 or 2007. At December 31, 2008, there were warrants outstanding which were exercisable to purchase 7,993,722 shares of common stock.

Warrant Holder	Issue Year	Expiration Year	Underlying Shares	Exercise Price
Various Institution Holders [1]	2005	2010	6,903,156	$ 1.20
Laurus Master Fund, Ltd. [2]	2003	2010	200,000	$ 1.92
Laurus Master Fund, Ltd. [2]	2003	2010	200,000	$ 2.07
Laurus Master Fund, Ltd. [2]	2003	2010	150,000	$ 2.35
Laurus Master Fund, Ltd. [2]	2004	2011	125,000	$ 2.57
Laurus Master Fund, Ltd. [2]	2004	2011	400,000	$ 1.18
TN Capital Equities, Ltd. [2]	2004	2009	15,566	$ 3.18
Total			7,993,722	

(1) These warrants were issued in conjunction with a private placement of common stock in October 2005.

Table of Contents

TRANSGENOMIC, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Years Ended December 31, 2008 and 2007

(2) These warrants were issued in conjunction with two loans that had been made to us by Laurus Master Fund, Ltd. (the Laurus Loans), and subsequent modifications of these loans. In conjunction with the 2005 private placement, the exercise prices of these warrants were adjusted according to repricing provisions contained in the original warrant agreements. While the Laurus Loans have been terminated, the warrants remain outstanding.

Preferred Stock.

The Company s Board of Directors is authorized to issue up to 15,000,000 shares of preferred stock in one or more series, from time to time, with such designations, powers, preferences and rights and such qualifications, limitations and restrictions as may be provided in a resolution or resolutions adopted by the Board of Directors. The authority of the Board of Directors includes, but is not limited to, the determination or fixing of the following with respect to shares of such class or any series thereof: (i) the number of shares; (ii) the dividend rate, whether dividends shall be cumulative and, if so, from which date; (iii) whether shares are to be redeemable and, if so, the terms and amount of any sinking fund providing for the purchase or redemption of such shares; (iv) whether shares shall be convertible and, if so, the terms and provisions thereof; (v) what restrictions are to apply, if any, on the issue or reissue of any additional preferred stock; and (vi) whether shares have voting rights. The preferred stock may be issued with a preference over the common stock as to the payment of dividends. The Company has no current plans to issue any series of preferred stock. Classes of stock such as the preferred stock may be used, in certain circumstances, to create voting impediments on extraordinary corporate transactions or to frustrate persons seeking to effect a merger or otherwise to gain control of the Company. For the foregoing reasons, any preferred stock issued by the Company could have an adverse effect on the rights of the holders of the common stock.

K. EQUITY INCENTIVE PLAN

The Company s 2006 Equity Incentive Plan (the Plan) allows the Company to make awards of various types of equity-based compensation, including stock options, dividend equivalent rights (DERs), stock appreciation rights (SARs), restricted stock, restricted stock units, performance units, performance shares and other awards, to employees and directors of the Company. The Plan was adopted in 2006 as a modification of the Company s 1997 Stock Option Plan (the Prior Plan). In addition to providing for additional types of equity-based awards, the Plan increased the total number of shares of common stock that the Company may issue from 7,000,000 under the Prior Plan to 10,000,000 shares under the Plan; provided, that no more than 5,000,000 of such shares may be used for grants of restricted stock, restricted stock units, performance units, performance shares and other awards.

The Plan is administered by the Compensation Committee of the Board of Directors (the Committee) which has the authority to set the number, exercise price, term and vesting provisions of the awards granted under the Plan, subject to the terms thereof. Either incentive or non-qualified stock options may be granted to employees of the Company, but only nonqualified stock options may be granted to nonemployee directors and advisors. However, in either case, the Plan requires that stock options must be granted at exercise prices not less than the fair market value of the common stock on the date of the grant. Options issued under the plan vest over periods as determined by the

Table of Contents

TRANSGENOMIC, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Years Ended December 31, 2008 and 2007

Compensation Committee and expire 10 years after the date the option was granted. To date, the only awards made under the Plan (and the Prior Plan) have been non-incentive stock options.

For the year ended December 31, 2008, we recorded compensation expense of $0.4 million within selling, general and administrative expense as a result of the vesting of options exercisable for the purchase of 1.7 million shares during the year. For the year ended December 31, 2007, we recorded compensation expense of $0.1 million within selling, general and administrative expense as a result of the vesting of options exercisable for the purchase of 1.4 million shares. As of December 31, 2008, there was $0.3 million of unrecognized compensation expense related to unvested stock options, which is expected to be recognized over a weighted average period of nearly three years.

The fair value of the options granted during 2008 was estimated on their respective grant dates using the Black-Scholes option pricing model. The Black-Scholes model was used with the following assumptions: risk-free interest rates of 1.55% to 3.99%, based on the U.S. Treasury yield in effect at the time of grant; dividend yields of zero percent; expected lives of 2 to 10 years, based on historical exercise activity behavior; and volatility of 62.92% to 95.35% for grants made during the year ended December 31, 2008 based on the historical volatility of our stock over a time that is consistent with the expected life of the option. A small group of senior executives hold the majority of the stock options and are expected to hold the options until they are vested therefore no forfeitures have been assumed.

The following table summarizes activity under the Plan (and the Prior Plan) during the year ended December 31, 2007:

	Number of Options	Weighted Average Exercise Price
Balance at January 1, 2007:	5,467,664	4.07
Granted	1,030,000	.66
Exercised		
Forfeited/Expired	(1,962,600)	4.17
Balance at December 31, 2007:	4,535,064	$ 3.26
Exercisable at December 31, 2007	3,243,231	$ 4.29

The following table summarizes activity under the Plan (and the Prior Plan) during the year ended December 31, 2008:

	Number of Options	Weighted Average Exercise Price
Balance at January 1, 2008:	4,535,064	3.26
Granted	350,000	.66
Exercised		
Forfeited/Expired	(1,354,000)	4.44
Balance at December 31, 2008:	3,531,064	$ 2.54
Exercisable at December 31, 2008	2,251,202	$ 3.62

Table of Contents

TRANSGENOMIC, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Years Ended December 31, 2008 and 2007

The following table summarizes the stock options that were issued during the year ended December 31, 2008:

	Number of Options	Exercise Price
March 7, 2008	15,000	$ 0.47
March 17, 2008	40,000	$ 0.50
May 21, 2008	25,000	$ 0.74
June 2, 2008	100,000	$ 0.86
July 25, 2008	25,000	$ 0.72
December 9, 2008	145,000	$ 0.56
	350,000	

The weighted average grant date fair value per share of options granted during the years ended December 31, 2008 and 2007 was $0.53 each year.

Options issued and outstanding to employees and outside directors are summarized below:

Exercise Price Range	Number of Options Outstanding	Number of Options Exercisable	Aggregate Intrinsic Value December 31, 2008
$ 0.00 $ 1.30	2,357,000	1,077,138	$ 0.00
$ 1.31 $ 2.60	370,833	370,833	$ 0.00
$ 2.61 $ 3.90	10,000	10,000	$ 0.00
$ 3.91 $ 5.20	31,000	31,000	$ 0.00
$ 5.21 $ 6.50	458,000	458,000	$ 0.00
$ 7.81 $ 9.10	10,000	10,000	$ 0.00
$ 9.11 $10.40	139,500	139,500	$ 0.00
$11.71 $13.00	154,731	154,731	$ 0.00
	3,531,064	2,251,202	$ 0.00

The following summarizes all stock options outstanding at December 31, 2008:

Exercise Price Range	Number of Options Outstanding	Remaining Weighted-Average Contractual Life	Weighted-Average Exercise Price	Number of Options Exercisable	Aggregate Intrinsic Value December 31, 2008

$ 0.00	$ 1.30	2,357,000	7.9 years	$	0.77	1,077,138	$ 0.00
$ 1.31	$ 2.60	370,833	4.3 years	$	1.96	370,833	$ 0.00
$ 2.61	$ 3.90	10,000	3.8 years	$	2.90	10,000	$ 0.00
$ 3.91	$ 5.20	31,000	.7 years	$	5.00	31,000	$ 0.00
$ 5.21	$ 6.50	458,000	2.4 years	$	6.10	458,000	$ 0.00
$ 7.81	$ 9.10	10,000	2.4 years	$	9.00	10,000	$ 0.00
$ 9.11	$10.40	139,500	2.4 years	$	9.86	139,500	$ 0.00
$11.71	$13.00	154,731	1.4 years	$	12.84	154,731	$ 0.00
		3,531,064				2,251,202	

Table of Contents

TRANSGENOMIC, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Years Ended December 31, 2008 and 2007

L. OPERATING SEGMENT AND GEOGRAPHIC INFORMATION

Our company s chief decision-maker as defined in FAS 131, Disclosures about Segments of an Enterprise and Related Information, is the Chief Executive Officer, who regularly evaluates our performance based on net sales and gross profit. The preparation of this segment analysis required management to make estimates and assumptions around expense below the gross profit level. While we believe the segment information to be directionally correct, actual results could differ from the estimates and assumptions used in preparing this information.

The accounting policies of the segments are the same as the policies discussed in Footnote B Summary of Significant Accounting Policies.

Segment information for the years ended December 31, 2008 and 2007 is as follows:

	Dollars in Thousands					
	2008			2007		
	Instrument Business	Lab Services	Total	Instrument Business	Lab Services	Total
Net Sales	$ 19,744	$ 4,249	$ 23,993	$ 20,452	$ 2,724	$ 23,176
Gross Profit	11,716	1,932	13,648	12,080	613	12,693
Net Income/(Loss) before Taxes	411	(693)	(282)	(559)	(1,372)	(1,931)
Income Taxes	213		213	243		243
Net Income/(Loss)	$ 198	$ (693)	$ (495)	$ (802)	$ (1,372)	$ (2,174)
Depreciation/Amortization	566	206	772	664	263	927
Restructure	110	8	118	1,516		1,516
Goodwill Impairment	638		638			
Interest Income	61	13	74	242	32	275
Interest Expense				(4)	(1)	(5)
Discontinued Operations						67
Net Assets	10,226	7,330	17,556	11,583	7,507	19,090

Table of Contents

TRANSGENOMIC, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Years Ended December 31, 2008 and 2007

We have two reportable operating segments. Net sales by product were as follows:

	Dollars in Thousands Years Ended December 31,	
	2008	2007
Instrument Related Business:		
Bioinstruments	$ 11,195	$ 11,551
Bioconsumables	8,549	8,901
	19,744	20,452
Laboratory Services:		
Molecular Clinical Reference Laboratory	2,870	1,688
Pharmacogenomics Research Services	1,379	1,036
	4,249	2,724
Total Net Sales	$ 23,993	$ 23,176

Net sales for the year ended December 31, 2008 by country were as follows:

	2008 (Dollars in Thousands)
United States	$ 9,399
Italy	2,913
France	2,393
Germany	1,770
United Kingdom	1,290
All Other Countries	6,228
Total	$ 23,993

No other country accounted for more than 5% of total net sales.

No customer accounted for more than 10% of consolidated net sales during the years ended December 31, 2008 and 2007. For the year ended December 31, 2008 four customers each made up more than 10% of the Laboratory Services net sales. Combined they represent 56% of the Laboratory Services net sales.

80% of our long-lived assets are within the United States. Substantially all of the remaining long-lived assets are within Europe.

Table of Contents

Item 9A(T). Controls and Procedures.

(a) *Evaluation of Disclosure Controls and Procedures*. We evaluated the design and operating effectiveness of our disclosure controls and procedures as of December 31, 2008, pursuant to Rule 13a-15(b) of the Securities Exchange Act of 1934. Based on this evaluation, our Chief Executive Officer and Chief Financial Officer concluded that, because of the material weakness in our internal control over financial reporting described below, our disclosure controls and procedures as defined in Rule 13a-15(e) were not effective. Notwithstanding the material weakness in our internal control over financial reporting as of December 31, 2008 described below, we believe that the consolidated financial statements contained in this report present fairly our financial condition, results of operations, and cash flows for the fiscal years covered thereby in all material respects. To address the material weakness in our internal control over financial reporting described below, management performed additional manual procedures and analysis and other post-closing procedures in order to prepare the consolidated financial statements included in this Annual Report on Form 10-K.

(b) *Management s Report on Internal Control Over Financial Reporting*. Management is responsible for establishing and maintaining an adequate system of internal control over financial reporting, pursuant to Rule 13a-15(c) of the Securities Exchange Act, in order to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with accounting principles generally accepted in the United States (GAAP). A company s internal control over financial reporting includes policies and procedures that: (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company, (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with accounting principles generally accepted in the United States, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company, and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the company s assets that could have a material effect on the financial statements.

In accordance with the internal control reporting requirements of the Securities and Exchange Commission, management completed an assessment of the effectiveness of our internal control over financial reporting as of December 31, 2008. In making this assessment, management used the criteria set forth in the Internal Control Integrated Framework by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The COSO framework summarizes each of the components of a company s internal control system, including the: (i) control environment, (ii) risk assessment, (iii) information and communication, and (iv) monitoring (collectively, the entity-level controls), as well as (v) a company s control activities (process-level controls). Management s evaluation of the design and operating effectiveness of our internal controls over financial reporting identified a material weakness resulting from the combination of more than one significant deficiency. Based on this evaluation, our Chief Executive Officer and Chief Financial Officer concluded that, because of the material weakness in our internal control over financial reporting, our internal control over financial reporting as defined rule 13a-15(f) was not effective. Policies and procedures that were

Table of Contents

not formally documented, lack of segregation of duties, access authorization to our computer systems and financial reporting all were areas that were assessed as having a significant deficiency. A material weakness is defined as a significant deficiency or combination of significant deficiencies, that results in more than a remote likelihood that a material misstatement of the annual or interim financial statements will not be prevented or detected on a timely basis. A significant deficiency is a deficiency or a combination of deficiencies, in internal control over financial reporting that is less severe than a material weakness, yet important enough to merit attention by those responsible for oversight of our financial reporting.

We are taking the following steps to remediate the material weakness in 2008:

We hired a replacement corporate controller in December 2008.

We are taking the following steps to remediate the material weakness in 2009:

We will document formal security and business policies and procedures.

We will review the functions of the employees in the accounting department to determine the cost benefit associated with proper segregation of duties. The accounting staff is small and complete segregation of duties may not be possible.

We will develop standard procedures for granting user access to our computer system.

We will develop additional procedures to ensure proper financial reporting.

We will ensure reconciliations are reviewed , understood and signed off by the Controller monthly.

Management s report was not subject to attestation by the Company s registered public accounting firm pursuant to temporary rules of the Securities and Exchange Commission that permit the Company to provide only management s report in this annual report. Accordingly, this annual report does not include an attestation report of the Company s registered public accounting firm regarding internal control over financial reporting.

(c) *Change in Internal Control Over Financial Reporting*. There have been no changes in the Company s internal control over financial reporting during the year that have materially affected, or are reasonably likely to materially affect, the Company s internal control over financial reporting other than those discussed above in Management s Report on Internal Control Over Financial Reporting.

Item 9B. Other Information.

None.

Table of Contents

Part III

Item 10. Directors, Executive Officers and Corporate Governance.

Information relating to our Board of Directors, including information regarding Craig Tuttle, our President and Chief Executive Officer who is also a director, required by this item is incorporated by reference to the Proxy Statement for the Company s 2009 Annual Meeting of Stockholders (the Proxy Statement) under the caption Board of Directors and Committees. Information regarding our other executive officers who are not directors is set forth below.

Debra A Schneider. Ms. Schneider, age 50, joined Transgenomic Inc. in December, 2006 and currently serves as Vice President and Chief Financial Officer. She also is its Secretary and Treasurer. Prior to joining Transgenomic, Ms. Schneider spent seventeen years at First Data Corporation in a number of roles, including finance, planning, accounting and Chief Financial Officer roles for various business units. Most recently, she served as Senior Vice President of Finance. Prior to her tenure at First Data Corporation, she worked as Controller at Creative Financing, Inc. and as an accountant with KPMG LLP.

Eric Kaldjian, M.D. Dr. Kaldjian, age 47, joined Transgenomic in December 2007 as Chief Scientific Officer. Dr. Kaldjian earned his MD and residency training in pathology at the University of Michigan before his fellowship training at the national Cancer Institute, NIH. His experience includes a broad range of responsibilities in pharmaceutical research in drug discovery, toxicology, and exploratory and full clinical development at Pfizer, Parke-Davis and Hoffman-LaRoche, where he participated in successful filings of oncology and transplant drugs. Immediately prior to Transgenomic, Dr. Kaldjian served as Executive Director, Medical Sciences at Gene Logic, Inc., directing programs that included clinical genomics, biomarkers and molecular diagnostics development. He is board certified in Anatomic Pathology.

Item 11. Executive Compensation.

Certain information required by this Item is incorporated by reference to the Proxy Statement under the caption Executive Compensation.

Securities authorized for issuance under equity compensation plans.

The following equity compensation plan information summarizes plans and securities approved and not approved by security holders as of December 31, 2008.

	(a)	(b)	(c)
PLAN CATEGORY	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted-average exercise price of outstanding options, warrants and rights	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a)
Equity compensation plans approved by security holders(1)	3,531,064	$ 2.54	5,715,167
Equity compensation plans not approved by security holders			
Total	3,531,064	$ 2.54	5,715,167

(1) Consists of our 2006 Equity Compensation Plan

Table of Contents

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.
Information required by this Item is incorporated by reference to the Proxy Statement under the caption Voting Securities and Beneficial Ownership by Principal Stockholder and our Directors and Officers.

Item 13. Certain Relationships and Related Transactions, and Director Independence.
Information required by this Item is incorporated by reference to the Proxy Statement under the captions Certain Relationships and Related Transactions and Board of Directors and Committees .

Item 14. Principal Accounting Fees and Services.
Information required by this Item is incorporated by reference to the Proxy Statement under the caption Accounting Fees and Services.

Part IV

Item 15. Exhibits, Financial Statement Schedules.

(a) The following documents are filed as part of this report:

1. Financial Statements. The following financial statements of the Registrant are included in response to Item 8 of this report:
Report of Independent Registered Public Accounting Firm.

Consolidated Balance Sheets of the Registrant and Subsidiaries as of December 31, 2008 and 2007.

Consolidated Statements of Operations of the Registrant and Subsidiaries for the years ended December 31, 2008 and 2007.

Consolidated Statements of Stockholders Equity of the Registrant and Subsidiaries for the years ended December 31, 2008 and 2007.

Consolidated Statements of Cash Flows of the Registrant and Subsidiaries for the years ended December 31, 2008 and 2007.

Notes to Consolidated Financial Statements of the Registrant and Subsidiaries.

2. Financial Statement Schedules.
None.

3. Exhibits. The following exhibits were filed as required by Item 15(a)(3) of this report. Exhibit numbers refer to the paragraph numbers under Item 601 of Regulation S-K:

Table of Contents

3.1 Third Amended and Restated Certificate of Incorporation of the Registrant (incorporated by reference to Exhibit 3.1 to Registrant s Report on Form 10-Q (Registration No. 000-30975) filed on November 14, 2005.

3.2 Bylaws of the Registrant (incorporated by reference to Exhibit 3.2 to Registration Statement on Form S-1 (Registration No. 333-32174) filed on March 10, 2000).

4. Form of Certificate of the Registrant s Common Stock (incorporated by reference to Exhibit 4 to Registration Statement on Form S-1 (Registration No. 333-32174) filed on March 10, 2000).

10.1 2006 Equity Incentive Plan of the Registrant (incorporated by reference to Exhibit 4(b) to Registration on Form S-8 (Registration No. 333-139999) filed on January 16, 2007.

10.2 1999 UK Approved Stock Option Sub Plan of the Registrant (incorporated by reference to Exhibit 10.7 to Registration Statement on Form S-1 (Registration No. 333-32174) filed on March 10, 2000).

10.3 Employee Stock Purchase Plan of the Registrant (incorporated by reference to Exhibit 4(b) to Registration Statement on Form S-8 (Registration No. 333-71866) filed on October 19, 2001).

10.4 Employment Agreement between the Company and Craig J. Tuttle dated July 12, 2006 (incorporated by reference to Exhibit 10.1 to Registrant s Report on Form 8-K (Registration No. 000-30975) filed on July 12, 2006.

10.5 Amendment No. 1 to the Employment Agreement between the Company and Craig J. Tuttle, effective July 12, 2006 (incorporated by reference to Exhibit 10.1 to Registrant s Report on Form 10-Q (Registration No. 000-30975) filed on November 14, 2006.

10.6 Employment Agreement between the Company and Debra A. Schneider, effective December 14, 2006, (incorporated by reference to Exhibit 10.1 to Registrant s Report on Form 8-K (Registration No. 000-30975) filed on November 15, 2006.

10.7 License Agreement, dated September 1, 1994, between Registrant and Professor Dr. Gunther Bonn, et. al. and Amendment thereto, dated March 14, 1997 (incorporated by reference to Exhibit 10.14 to Registration Statement on Form S-1 (Registration No. 333-32174) filed on March 10, 2000).

10.8 License Agreement, dated August 20, 1997, between the Registrant and Leland Stanford Junior University (incorporated by reference to Exhibit 10.15 to Registration Statement on Form S-1 (Registration No. 333-32174) filed on March 10, 2000).

10.9 License Agreement, dated December 1, 1989, between Cruachem Holdings Limited (a wholly owned subsidiary of the Registrant) and Millipore Corporation (incorporated by reference to Exhibit 10.13 to Registrant s Annual Report on Form 10-K filed on March 25, 2002).

Table of Contents

10.10 Sublicense Agreement, dated October 1, 1991, between Cruachem Holdings Limited (a wholly owned subsidiary of the Registrant) and Applied Biosystems, Inc. (incorporated by reference to Exhibit 10.14 to Registrant s Annual Report on Form 10-K filed on March 25, 2002).

10.11 Missives, dated May 17, 2002, between Cruachem Limited (a wholly-owned subsidiary of the Registrant) and Robinson Nugent (Scotland) Limited (incorporated by reference to Exhibit 10.1 to Registrant s Quarterly Report on Form 10-Q filed on August 14, 2002).

10.12 License Amendment Agreement, dated June 2, 2003, by and between Geron Corporation and the Registrant (incorporated by reference to Exhibit 10.2 to Registrant s Quarterly Report on Form 10-Q filed on August 12, 2003).

10.13 Supply Agreement, dated January 1, 2000, between the Registrant and Hitachi Instruments (incorporated by reference to Exhibit 10.16 to Registration Statement on Form S-1 (Registration No. 333-32174) filed on March 10, 2000).

10.14 Common Stock Purchase Warrant by and between the Registrant and Laurus Master Fund, Ltd., dated December 3, 2003 (incorporated by reference to Exhibit 10.4 to the Registration Statement on Form S-3 of the Registrant (Registration No. 333-111442) filed on December 22, 2003).

10.15 Registration Rights Agreement by and between the Registrant and Laurus Master Fund, Ltd., dated December 3, 2003 (incorporated by reference to Exhibit 10.5 to the Registration Statement on Form S-3 of the Registrant (Registration No. 333-111442) filed on December 22, 2003).

10.16 Common Stock Purchase Warrant by and between the Registrant and TN Capital Equities, Ltd., dated December 3, 2003 (incorporated by reference to Exhibit 10.6 to the Registration Statement on Form S-3 of the Registrant (Registration No. 333-111442) filed on December 22, 2003).

10.17 Securities Purchase Agreement by and between the Registrant and Laurus Master Fund, Ltd., dated February 19, 2004, as amended on April 15, 2004 (incorporated by reference to Exhibit 10.1 to the Registration Statement on Form S-3 of the Registrant (Registration No. 333-114661) filed on April 21, 2004).

10.18 Amendment to Securities Purchase Agreement and Related Document by and between the Registrant and Laurus Master Fund, Ltd., dated August 31, 2004 (incorporated by reference to Exhibit 10.1 to the Registration Statement on Form S-3 (Registration No. 333-118970) as filed on September 14, 2004).

10.19 Common Stock Purchase Warrant by and between the Registrant and Laurus Master Fund, Ltd., dated February 19, 2004, as amended on April 15, 2004 (incorporated by reference to Exhibit 10.3 to the Registration Statement on Form S-3 of the Registrant (Registration No. 333-114661) filed on April 21, 2004).

Table of Contents

10.20 Registration Rights Agreement by and between the Registrant and Laurus Master Fund, Ltd., dated February 19, 2004 (incorporated by reference to Exhibit 10.4 to the Registration Statement on Form S-3 of the Registrant (Registration No. 333-114661) filed on April 21, 2004).

10.21 Common Stock Purchase Warrants by and between the Registrant and TN Capital Equities, Ltd., dated March 1, 2004 (incorporated by reference to Exhibit 10.2 to the Registration Statement on Form S-3 of the Registrant (Registration No. 333-114661) filed on April 21, 2004).

10.22 Common Stock Purchase Warrant by and between the Registrant and Laurus Master Fund, Ltd., dated August 31, 2004 (incorporated by reference to Exhibit 10.3 to the Registration Statement on Form S-3 (Registration No. 333-118970) as filed on September 14, 2004).

10.23 Form of Securities Purchase Agreement by and between the Registrant and various counterparties dated September 22, 2005 (incorporated by reference to Exhibit 10.1 to the Registrants Quarterly Report on Form 10-Q filed on November 14, 2005).

10.24 Common Stock Purchase Warrant by and between the Registrant and Oppenheimer & Co., Inc. dated October 27, 2005 (incorporated by reference to Exhibit 10.34 to the Registrants Annual Report on Form 10-K filed on March 31, 2006).

10.25 Letter Agreement by and between the Registrant and Laurus Master Fund, Ltd. dated October 31, 2005 (incorporated by reference to Exhibit 10.36 to the Registrants Annual Report on Form 10-K filed on March 31, 2006).

10.26 Employment Agreement Extension between the Company and Craig Tuttle dated July 12, 2008 (incorporated by reference to Registrant s Report on Form 8-K (Registration No. 000-30975) filed on July 16, 2008).

21 Subsidiaries of the Registrant.

23 Consent of Independent Registered Public Accounting Firm.

24 Powers of Attorney.

31 Certifications pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.

32 Certifications pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.

Table of Contents

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized on this 30th day of March 2009.

TRANSGENOMIC, INC.

By: /s/ CRAIG J. TUTTLE
Craig J. Tuttle,

President and Chief Executive Officer

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities indicated on this 30th day of March 2009.

Signature	Title
/s/ CRAIG J. TUTTLE Craig J. Tuttle	Director, President and Chief Executive Officer (Principal Executive Officer)
/s/ DEBRA A. SCHNEIDER Debra A. Schneider	Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)
/s/ GREGORY J. DUMAN* Gregory J. Duman	Director
/s/ JEFFREY L. SKLAR* Jeffrey L. Sklar	Director
/s/ RODNEY S. MARKIN* Rodney S. Markin	Director
/s/ GREGORY T. SLOMA* Gregory T. Sloma	Director
/s/ FRANK R. WITNEY* Frank R. Witney	Director

*By Craig J. Tuttle, as attorney-in-fact
/s/ CRAIG J. TUTTLE
Craig J. Tuttle

Attorney-in-fact for the individuals as indicated.