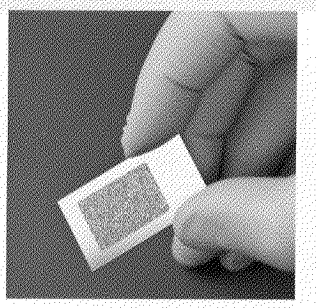
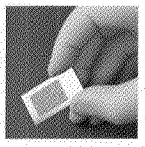


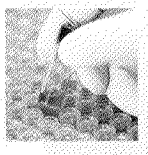
ORCHID CELLMARK

DNA testing trusted worldwide.

AT THE FOREFRONT OF THE DNA IDENTITY TESTING COMMUNITY

2009 ANNUAL REPORT





Corporate Profile

Orchid Cellmark Inc. is a leading international provider of DNA testing services primarily for forensic and family relationship applications. Orchid Cellmark is one of the largest providers of forensic DNA testing services and its DNA results are used by the criminal justice system to assist with the identification of perpetrators, the exclusion of suspects and the exoneration of wrongfully convicted individuals. The Company provides DNA family relationship testing to numerous child services organizations and individuals seeking to verify parentage. Orchid Cellmark also serves immigration and security authorities for DNA testing of individuals. In the agriculture field, the Company provides DNA testing services for selective trait breeding. Orchid Cellmark's strong market positions in these areas reflect the Company's accredited laboratories in the U.S. and U.K., its innovative genetic analysis technologies and expertise, and the Company's reputation for exceptional quality, reliability and customer service for nearly two decades.

To Our Fellow Shareholders,

For this year's letter to you, our shareholders, I decided not to give you an overview of 2009's numbers, but to engage in a more substantive report of the challenges and issues your Company faced in 2009 into 2010 and the changes we see that build our confidence and optimism for the months and years ahead.

The last years of this decade—2009 and 2010—are clearly becoming watershed years for DNA analysis and, consequently, for Orchid Cellmark.

No longer is there even a shred of debate concerning the effectiveness of DNA in crime fighting and prevention. Every day we witness arrests, convictions and yes, even exculpations, as a result of the veracity and accuracy of DNA testing. Popular culture embraces and furthers support for DNA analysis, typified by such television shows as "CSI," "Law and Order" and "Cold Case," to name just a few.

Since I became chief executive in 2006, we've concentrated our efforts on building our businesses in both the United States and the United Kingdom, right-sizing our facilities and enhancing our technology. I say with confidence that Orchid Cellmark has never been in a better organizational and technical position than right now.

With those facts in mind, why then, although 2009 financial results were the best we've ever achieved since 1996, has our Company's revenue growth been modest and sustained profitability elusive?

Many factors comprise the answer, but given developments occurring in 2009 that will persist through 2010 and beyond, we are quite optimistic that Orchid is well positioned to capitalize on emerging trends in the markets for DNA analysis.

Historically, most crime scene analysis, including DNA, has been conducted by state, municipal or regional jurisdictions. Over the years, as these labs in the U.S. became overburdened, some of them turned to private providers, prime among them Orchid Cellmark.

However, for a variety of reasons, a general reluctance to work with private providers persisted and was compounded by the fact that federal regulation impeded public-private partnership and often times made it costly. Then, with the economic downturn, these public entities found funds drying up and the ability to use private suppliers to keep up with demand even more limited. The result is a backlog of tens of thousands of sexual assault sample kits in the U.S.

In addition to these untested cases sitting in crime labs, several reports indicate there are hundreds of thousands of sexual assault kits sitting in police storage not yet even submitted to crime labs for testing.

For example, in November 2009, *CBS News* reported that over 20,000 sexual assault kits were backlogged in just 11 cities. In response to this unacceptable backlog, both the U.S. Senate and House of Representatives held hearings at which Orchid Cellmark presented its views. As a result of these hearings, new federal legislation is being considered to reduce the national backlog by creating financial incentives—and penalties—to track and test these backlogged sexual assault kits.

Because the backlog of untested DNA evidence is not only an issue of importance for Orchid Cellmark, but one that should concern American citizens from coast-to-coast, we decided to take on this issue ourselves. With the support of several victim and law enforcement groups, we are communicating our views to decision makers in Washington, D.C. and elsewhere. Our goal and message are simple—working together with public entities, Orchid Cellmark can play a bigger role in eliminating the forensic DNA testing backlog by increasing efficiencies in how existing federal and state money is spent. We estimate that up to two and a half times more cases can be completed in public-private partnerships using federal backlog reduction grant money as compared to alternatives currently allowed.

President Barack Obama recognized the validity and importance of DNA testing in crime fighting and also pledged support for testing at the state level in his appearance on the 100th anniversary show of "America's Most Wanted." Further, the FBI announced its re-evaluation of the requirements for outsourcing forensic DNA testing to private laboratories.

We firmly believe changes to current federal policies of 100-percent public review of private lab work will provide a tremendous opportunity to not only cost-effectively eliminate the current DNA testing backlog but also maintain zero backlog. Such success has been achieved in the U.K., where changes to the rules governing public-private partnerships for DNA testing enabled significant efficiencies.

Our U.S. growth challenge is not too dissimilar to the growth challenges we faced in the U.K. in 2006. If you recall, we faced the challenge of not only growing revenues, but also maintaining our level of U.K. revenues. We acted quickly and seized the opportunity presented by the Northwest/Southwest & Wales regional tender and the National Procurement Plan. We are now experiencing significant growth in our U.K. forensics business.

In U.K. pounds, revenue in the U.K. for 2009 grew in excess of 30 percent, with significant increases in forensics, paternity and immigration. Forensics is the key U.K. growth driver, growing in excess of 31 percent in the fourth quarter of 2009 and 45 percent for all of 2009. We are very much in a growth mode and have expanded our production capacity at our new Chorley facility, while also developing plans to expand capacity at our Abingdon site. Both expansions are related to digesting work from our present customers and in anticipation of further work.

While U.S. federal and state governments are experiencing challenging economic times, and to varying degrees it affects our overall business, I believe it is important to appreciate that Orchid Cellmark also is one of the largest paternity testing companies in the States.

While we did experience a decrease in government paternity revenue, largely as a result of the loss of the State of Ohio business, core private paternity business held steady and gross margin increased relative quarter over quarter at the end of 2009 and we gained other government paternity business that restored that lost volume. We also were pleased to win, once again, the bid for a multi-year award for all of the State of Michigan's paternity work which further minimized decreases in our government paternity revenue.

That ability to anticipate, respond, effectively plan and execute, combined with Orchid Cellmark's scale, gives us the where-with-all to weather these challenges.

In the final analysis, we anticipate Orchid Cellmark being a stronger company for a number of reasons, not the least of which are a result of some of the actions we took in 2009, such as consolidating our facilities. These consolidations have—and will continue—to lead to significant cost savings.

Additionally, we've always believed this industry would consolidate and believe we are in a good position to capitalize on that opportunity by actively seeking potential acquisition candidates and relationships that would help us grow our U.S. top line.

Towards that end, in Spring 2010, Orchid Cellmark acquired the paternity and immigration DNA testing business unit of Strand Analytical Laboratories, LLC., a provider of forensic, medical, and paternity DNA testing services based in Indianapolis. While a small acquisition, it signals our intent to the marketplace that Orchid Cellmark fully intends to be an aggregator.

Finally, despite the challenges of 2009, our balance sheet and our cash holdings reflect another positive position for Orchid Cellmark. Through careful and attentive husbandry we ended 2009 with $18 million in cash, a healthy sum for a rainy day fund and our war chest. Our plan is to use some of our capital to fund key programs and pursue acquisition opportunities that will grow our top line.

As I reflect on 2009, I find wisdom in the words of former U.S. Supreme Court jurist and celebrated American, Oliver Wendell Holmes: "We must sail sometimes with the wind and sometimes against it—but we must sail, and not drift, nor lie at anchor."

Clearly, 2009 was a year of headwinds, but we did not drift nor stay at anchor. We took actions, both internally from an operational viewpoint, and externally, from a public policy point-of-view, that are bearing successes and ensure that this coming decade, commencing with 2010, will be Orchid Cellmark's to seize.

In closing, as always, I recognize the importance of the loyalty and support of our shareholders, the dedication of our employees, the talent of our management team, and the insight of our Board of Directors. To each, my thanks.

Sincerely,

Thomas A. Bologna
President and Chief Executive Officer
Orchid Cellmark Inc.

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

FORM 10-K

(Mark One)

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the fiscal year ended December 31, 2009

☐ **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: 000-30267

ORCHID CELLMARK INC.
(Exact name of registrant as specified in its charter)

Delaware	**22-3392819**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
4390 US Route One, Princeton, NJ	**08540**
(Address of principal executive offices)	**(Zip code)**

Registrant's telephone number, including area code: (609) 750-2200

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

Title of each class	Name of each exchange on which registered
Common Stock, $.001 Par Value Per Share	**The NASDAQ Stock Market LLC**
Preferred Share Purchase Rights	**The NASDAQ Stock Market LLC**

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

None
(Title of Class)

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

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 ☒

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

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ☐ 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 definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer ☐ Accelerated filer ☐
Non-accelerated filer ☐ (do not check if a smaller reporting company) Smaller reporting company ☒

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

The aggregate market value of the registrant's common stock held by non-affiliates of the registrant (without admitting that any person whose shares are not included in such calculation is an affiliate) computed by reference to the price at which the common stock was last sold as of the last business day of the registrant's most recently completed second fiscal quarter was approximately $34,293,454.

As of March 11, 2010, the registrant had 29,966,562 shares of common stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Certain information required in Part III of this Annual Report on Form 10-K is incorporated by reference from the registrant's Proxy Statement for the Annual Meeting of Stockholders to be held on May 26, 2010.

ORCHID CELLMARK INC.

FORM 10-K

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ORCHID
CELLMARK

Orchid Cellmark Inc.
4390 US Route One
Princeton, NJ 08540
609.750.2280
609.750.6405 fax

October 5, 2010

FEDERAL EXPRESS

Securities and Exchange Commission
100 F Street, N.E.
Washington, D.C. 20549

Re: Orchid Cellmark Inc. - 2009 Annual Report to Shareholders

Dear Sir or Madam:

In connection with the annual meeting of Orchid Cellmark Inc. (the "**Company**") to be held on November 9, 2010, enclosed please find seven (7) copies of the Company's 2009 Annual Report to Shareholders (the "**Annual Report**") in accordance with Rule 14a-3(c) promulgated under the Securities Exchange Act of 1934, as amended. The Company will begin mailing the Annual Report to its shareholders on or about October 7, 2010.

If you should have any questions or comments regarding the Annual Report, please contact the undersigned at (609) 750-2280.

Very truly yours,

William J. Thomas
Vice President and General Counsel

Enclosures

PART I

Item 1. BUSINESS

The following Business section contains forward-looking statements, which involve risks and uncertainties. Actual results could differ materially from those anticipated in these forward-looking statements as a result of certain factors. See Item 1A. Risk Factors below for a discussion of these factors.

Orchid Cellmark Inc. including all its subsidiaries and affiliates are collectively referred to herein as the "Company," "us" or "we."

We are engaged in the provision of DNA testing services that generate genetic profile information by analyzing an organism's unique genetic identity. We also provide non-DNA forensic laboratory services.

The process of identifying unique variations in a genome is referred to as DNA testing. An individual's identity can be confirmed with almost absolute certainty through DNA testing. First used to establish human identity in 1985, DNA testing is the standard method used for forensic identification and to confirm paternity and other family relationships. DNA testing is also used in agricultural applications for selective trait breeding and related applications. DNA testing is sometimes also referred to in the industry as DNA fingerprinting, DNA typing, DNA profiling or genotyping.

Our business is primarily focused on DNA testing for human identity. We provide DNA testing services for forensic, family relationship and, to a lesser extent, security applications. Forensic DNA testing is primarily used in the following ways: to establish and maintain DNA profile databases of individuals arrested for or convicted of crimes; to analyze and compare evidence from crime scenes with these databases to identify possible suspects; and to confirm that a suspect committed a particular crime or to exonerate a falsely accused or convicted person. Forensic DNA testing can also be used to confirm a victim's identity. Family relationship DNA testing is used to establish whether two or more people are genetically related. It is most often used to determine a biological father in a paternity case. It can also be used to confirm a genetic relationship for purposes of immigration, adoption, estate settlement, genealogy and ancestry. DNA testing also is used by individuals and employers in security applications to establish and store a person's genetic profile for identification purposes in the event of an emergency or accident.

We also provide DNA testing services for agricultural applications, primarily in selective trait breeding. We provide agricultural susceptibility testing to enable farmers to breed sheep resistant to scrapie, a fatal, degenerative disease that affects the nervous systems of sheep and goats. We also provide genetic marker analysis in animals that can be used to confirm relationships.

We have operations in the United States, or the US, and in the United Kingdom, or the UK, and the majority of our current customers are based in these two countries. We provide our DNA testing services to various government agencies, private individuals and commercial companies. During the years ended December 31, 2009, 2008 and 2007, we recorded total revenues of $59.1 million, $57.6 million and $60.3 million, respectively, of which $29.6 million, $31.2 million and $30.3 million, respectively, were from our US operations. We recorded international revenues, primarily in the UK, of $ 29.5 million, $26.4 million and $30.0 million for the years ended December 31, 2009, 2008 and 2007, respectively. No single customer accounted for more than 10% of our revenues in 2009 or 2008. Our former arrangement with LGC Ltd., or LGC, accounted for approximately 21% of our total revenues in 2007.

Our principal executive offices are located at 4390 US Route One, Princeton, New Jersey, 08540. Our telephone number is (609) 750-2200 and our website address is *www.orchidcellmark.com.* Our Corporate Code of Business Conduct and Ethics as well as our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K and all amendments to these reports, which have been filed with the Securities

and Exchange Commission, or SEC, are available free of charge through the Investor Relations section on our website as soon as reasonably practicable after such materials have been electronically filed with, or furnished to, the SEC. The public may also read and copy any materials we file with the SEC at the SEC's Public Reference Room, 100 F Street, NE, Washington, D.C. 20549. The public may also obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. Because we file reports and other information with the SEC electronically, the public may obtain access to those documents at the SEC's internet website: *www.sec.gov*. We include our website address in this Annual Report on Form 10-K as an inactive textual reference only.

Background

All living organisms contain DNA, which encodes genetic information in cells. DNA determines the structure, function and behavior of cells and individual hereditary characteristics. DNA was first used to confirm human identity in 1985 and has since been used to revolutionize many applications involving individual identification, particularly in connection with forensic investigations. The introduction of DNA testing into the criminal justice system, both in the US and abroad, has been characterized as the most significant improvement in forensic science since the introduction of fingerprinting over 100 years ago. DNA evidence left behind at a crime scene affords prosecutors a means of identifying a suspect with almost absolute certainty. In addition, DNA evidence has proved to be the best currently available method for a wrongfully accused individual to prove his or her innocence.

After the first phase of the human genome sequence was completed in 2000, attention turned from mapping the sequence of the genome to identifying genetic differences between individuals and applying this knowledge to the healthcare and other related fields. Scientists have analyzed large portions of DNA to determine the sequence of nucleotide bases within the human genome and within the genomes of plant and animal species. Scientists hope to understand and use this molecular level knowledge to transform traditional approaches to medicine, agriculture and other fields. The increasing availability of non-human genomic data is driving the use of genetic variability information for animal identification, which is expected to produce improved characteristics in livestock or crops and protect humans against animal-borne diseases.

Technologies Utilized

All DNA testing currently used for identity purposes examines specific segments of DNA that exhibit variability between different individuals and animals. Two forms of such variability are known as short tandem repeats, or STRs, which we utilize in DNA testing services for forensic, family relationship and security applications, and single nucleotide polymorphisms, or SNPs, which we utilize in DNA testing services for agricultural applications and in some of our forensic DNA testing services.

STRs

An STR is a portion of DNA in which small segments are repeated a variable number of times. Typically, there are 10 to 25 possible variations of a given human STR marker, with each person having just one or two variations. By looking at a moderate number of STRs, a DNA profile is determined that is virtually unique for each individual. STRs are the most common genetic markers used in the industry to determine identity in forensic, paternity and security applications.

A DNA profile can be determined from any type of biological specimen containing nuclear DNA, including blood or a tissue sample, such as a cheek swab. These specimens may be used for determining profiles of suspects, victims and criminals and for paternity testing. The STR markers used to establish a person's identity are selected specifically to be able to confirm identity without inadvertently providing other information about the individual, such as information concerning the individual's current health or susceptibility to certain diseases or adverse responses to medications.

A DNA profile can also be determined from DNA contained in biological evidence from a crime scene, such as blood stains, semen, hair, skin, bone, teeth and even minute traces of saliva resident on items such as cigarette butts and postage stamps. DNA profiles derived from crime scene evidence can be compared with that of a suspect or victim, and can be catalogued in a database for future comparison, much like fingerprints. DNA testing can also be used to confirm that a suspect committed a particular crime or exonerate a falsely accused or convicted person. In various countries around the world, DNA samples are collected from suspected or convicted criminals, profiled and entered into national databases. Evidence from crime scenes in which no suspect has yet been identified can be analyzed and compared with this database to possibly identify a suspect. In the US, there are 13 standard STR markers that are analyzed by public and private forensic laboratories to establish DNA profiles. These profiles can then be uploaded to the FBI-managed national criminal database known as the Combined DNA Index System, or CODIS, as well as to individual state databases. In the UK, 10 standard STR markers are used to compile the UK National DNA Database, or NDNAD.

DNA testing may also be used in paternity and other family relationship testing. Since DNA markers are inherited, the profile of a child can be compared with that of the alleged father to confirm or exclude him as the child's biological father. Similarly, DNA markers can prove family relationships for several other purposes including individuals immigrating to a country or for children being adopted. Individuals and employers have also used DNA testing to establish and store a person's genetic identity for future reference in the event of an emergency or accident.

SNPs

The second form of variability in DNA involves a change in a SNP, which is the most common form of genetic variation. We use SNPs to determine commercially desirable qualities, such as disease resistance, in animals. Analyzing SNPs in animals can also provide animal breeders with genetic data relating to such characteristics as meat quality and milk production. We also use SNPs for some of our forensic DNA testing services.

Testing Services

In the human identity area, we provide DNA testing services for forensic, family relationship and, to a lesser extent, security applications. In agricultural applications, we provide DNA testing services for selective trait breeding.

Based on our review of publicly available information regarding contract sizes and competitor activity, supplemented by industry publications and third-party market assessment data, we believe we are one of the largest providers of forensic and family relationship testing in the US, and we are also a recognized leading provider of such services in the UK. Based on these same sources, we believe that the US and UK are some of the largest existing markets for DNA testing services today, and the majority of our current customers are based in these countries. We conduct forensic DNA testing primarily for government agencies. We perform family relationship testing services for both government agencies and private individuals. We market security DNA testing services to government agencies, commercial companies and private individuals. We perform agricultural DNA testing services for government agencies and members of the agricultural community. We have four accredited laboratories in the US and one in the UK, which provide all of our DNA testing services. We currently are in the process of consolidating our US testing facilities into two laboratories.

In the US and UK, a significant amount of our current testing activity is under established contracts with a number of different government agencies. These contracts are usually awarded through a sealed bid process and, when awarded, typically have a term from one to three years. We believe that our experience as a reliable provider of services to government agencies is a valued credential that can be used in securing both new contracts and renewing existing contracts.

We intend to continue to develop and evaluate new technologies for enhancing our laboratory processes, including instrumentation, automation and new testing methodologies, which we expect will enable us to reduce our costs and improve the quality of our service offerings. All of the reagents and instruments utilized in our services are highly specialized. We currently purchase the majority of reagents and other components for use in our DNA testing services from a single supplier. While comparable reagent kits and instruments are available from multiple suppliers in the event of a supply problem, switching suppliers would require obtaining the approval of certain of our customers and may necessitate changing instruments on which we perform DNA testing services, which could require significant capital investment.

Human Identity DNA Testing Services

Forensic DNA Testing Services

We are a leading forensic DNA testing provider and are known for the high quality of our services and the expertise of our staff. We test a variety of forensic evidence samples collected at crime scenes, also known as casework. Testing services can implicate or exclude a known suspect, or may, in the absence of a suspect, generate a DNA profile of a perpetrator for use in searching criminal DNA databases. Although the majority of forensic testing services are done for criminal justice agencies, we also provide testing services for defense attorneys. Casework testing is provided on an individual case basis or under contract. Government contract services are usually awarded through a competitive bid process in which specifications are issued in the form of a request for proposal, or RFP, or in the form of an invitation to bid, or ITB, and vendors respond with a sealed bid by a specified date. These contracts typically have a term of one to three years.

In addition to casework testing, we also provide DNA identification profiles of individuals for inclusion in national, state and local criminal DNA databases. In the US, DNA specimens are collected from convicted criminals and certain arrestees and are tested by our laboratories to provide DNA profiles for inclusion in the CODIS database, as well as individual state databases. In the UK, under the UK Police and Criminal Evidence Act, or PACE, DNA specimens are also collected from certain arrestees and are tested in our UK laboratory to provide DNA profiles for inclusion in the NDNAD. DNA evidence from criminal cases with no known suspects may be screened against these databases to help identify a possible suspect.

In the US, as of November 2009, the CODIS database stored the DNA profiles of over 7.6 million convicted offenders and over 294,000 forensic case DNA profiles. To date, more than 100,000 criminal investigations have been aided in the US by matching DNA profiles generated from crime scene evidence against the CODIS database. In the UK, the NDNAD currently stores more than 4.8 million DNA profiles, and through the use of this database more than 364,000 suspect to crime scene matches have been made since the database's inception in 1995. We anticipate volume growth in CODIS and a relatively stable market for NDNAD work based on legislation in both the US and the UK. In the US, there have been a number of contracts awarded by states to address the backlog of cases with no known suspect for screening against the CODIS database. At this time, 44 states have passed legislation requiring DNA profiling of felons and 21 states have passed legislation requiring DNA profiling of arrestees. DNA testing also is starting to be used in the US for non-violent crimes like burglary and auto theft. The UK has had considerable success using DNA evidence to solve these types of property crimes.

Our forensic testing services are performed in our accredited facilities located in Nashville, Tennessee, Dallas, Texas, and in Abingdon, UK. On January 14, 2010, we announced the consolidation of our Nashville, Tennessee forensic DNA testing facility into our Dallas, Texas facility. We expect to complete this consolidation and close the Nashville facility by August 31, 2010. We believe this consolidation may lead to additional operational efficiencies, plant and equipment cost reductions and increased scalability. During the first quarter of 2009, we completed the process of integrating the testing services performed in our former New Orleans facility acquired from ReliaGene Technologies, Inc., or ReliaGene, into our other US facilities and closed the New Orleans facility. We anticipate that our current facilities should serve our near term capacity needs for forensic

testing services. We have selectively focused certain services in specific facilities, where appropriate, to maximize economies of scale, and at the same time have implemented activities to decrease costs and increase capacity as appropriate. As part of the planned consolidation of our US forensic DNA testing facilities into our Dallas, Texas facility, we are establishing a new CODIS laboratory in our Dallas facility. We have leased additional space at our Dallas location to build this new laboratory. To establish this CODIS facility, we will need to make certain capital expenditures, hire additional laboratory personnel, procure and install equipment, validate our CODIS processes and gain applicable forensic accreditations.

Our forensic testing facilities in the US are accredited by the American Society of Crime Lab Directors/ Laboratory Accreditation Board, or ASCLD/LAB, and the National Forensic Science Testing Center, or NFSTC. All of our forensic testing facilities also maintain ISO 17025 Forensic Quality Services, or FQS-I, accreditation and our UK forensic testing laboratory also maintains ISO 9001:2000 accreditation.

The value of DNA testing in solving crimes is increasingly being recognized and we anticipate that federal and state governments in the US will allocate greater resources to support wider use of DNA testing. This is evidenced by the US legislation known as "The Justice for All Act of 2004," encompassed in the US DNA Testing Initiative, in which the federal government indicated its intent to allocate more than $1 billion over fiscal years 2005 to 2009 towards reducing the backlog of forensic testing that currently exists in the US criminal justice system. New federal legislation is being considered to reduce the national rape kit backlog and clear thousands of existing rape kits in police and government crime lab storage facilities. Although no statistical database exists for the exact number of untested rape kits held in evidence backlog in the US, some estimates of the backlog put the number between 180,000 and 400,000 kits. For example, nearly 10,000 untested sexual assault kits in Los Angeles were recently identified. Additional federal legislation in the US was passed that allows for a significant expansion of forensic DNA testing of arrestees and includes provisions for DNA testing of illegal immigrants. Through a process directed by the National Institute of Justice, or NIJ, states may apply for federal funds to assist in testing the enormous backlog of untested cases with no known suspect. Portions of the funds awarded to the states are designated for outsourcing to private sector laboratories. Contracts are awarded through the NIJ or by the states receiving the federal funds under competitive procurement. Such contracts are awarded based on a matrix of criteria including price, experience, capacity and quality, and are usually for a term of one to three years with options to extend under certain circumstances. Virtually all contracts require ASCLD/ LAB, ISO 17025 FQS-I or NFSTC accreditation.

We provide a full range of forensic DNA testing services to UK police forces, from the routine analysis of DNA samples for submission to the NDNAD to the analysis of evidence for the most serious crimes. This testing is provided through our UK facility. UK government funding for DNA analysis increased significantly in past years through its DNA Expansion Plan and we believe that the UK government and police forces will continue to support the use of DNA testing in forensic cases. In 2008, the UK established the National Procurement Plan, a formalized bidding process under which police forces collectively tender their forensic work for bid.

Prior to April 30, 2008, a significant portion of our UK revenues were derived through our agreement with LGC Ltd., or LGC. LGC is a provider of analytical and diagnostic services and one of our competitors in providing DNA testing services in the UK. Our prior agreement with LGC was terminated effective July 15, 2007 and we then entered into a series of temporary extension agreements with LGC which have terminated. Our focus is on providing our services directly to UK police forces. In 2006, we were successful in winning forensic work with different UK police forces and, in February 2008, we were awarded, overall, a significant portion of the service packages we bid on in the North West/South West and Wales regional tender. We were awarded work from nine of the fourteen police forces that participated in this tender. Under the terms of the award, we are providing forensic services, including DNA testing of database crime scene samples, forensic casework and database testing services under the UK Police and Criminal Evidence Act, or PACE, for multiple police forces that collectively tendered their work. This award followed a rigorous and competitive bidding process. We believe that the actions we have taken to date have enabled us to successfully transition from our prior reliance on revenues derived from LGC to directly providing these services to police forces in the UK. In addition, we

expect the remaining police forces in the UK to solicit initial tenders for forensic services through the UK's National Procurement Plan by the end of 2011.

Each of our forensic DNA testing facilities has broad capabilities in handling the complex evidence samples related to casework. Further, we have developed, and continue to develop, processes and procedures designed to allow us to handle larger testing volumes to the extent required under specific contracts, or in response to the expanding government initiatives to reduce the backlog of no-suspect cases. We have continued to expand our service offerings in forensic testing with new technology or novel approaches for special cases, new services to help solve non-violent crimes and our DNA Express Service, which provides accelerated testing services at a premium price in the US market. Specialty testing services include Y chromosome STR analysis, which is important in sexual assault analysis, as well as mitochondrial DNA testing and SNP based testing, both of which are beneficial in analyzing very small or extremely degraded DNA samples. We believe that DNA testing of non-violent or property crime evidence is a growth area for our forensics business. Recent studies have shown that the DNA testing of property crime evidence is twice as effective as fingerprinting when both types of evidence are available and DNA testing of property crimes can reduce annual property crime rates.

Family Relationship DNA Testing Services

Family relationship DNA testing is used to establish that two or more people are genetically related, and is most often used to determine a biological father of a particular child in a paternity case. It can also be used to confirm a genetic relationship for purposes of immigration, adoption, estate settlement, genealogy, ancestry and storing genetic profiles. We offer paternity DNA testing services to both governmental agencies and private customers. Laboratory testing is done in our accredited laboratories located in East Lansing, Michigan, Dayton, Ohio and Abingdon, UK. On October 20, 2009, we announced the consolidation of our East Lansing, Michigan paternity testing operations into our Dayton, Ohio facility. We expect to complete this consolidation and close the East Lansing facility by July 1, 2010. We believe this consolidation may lead to additional operational efficiencies, plant and equipment cost reductions and increased scalability. We completed the process of integrating the testing services performed in our former New Orleans facility acquired from ReliaGene into our other facilities and closed this facility.

Government paternity testing

The government paternity testing market in the US and UK, which comprises the majority of our paternity testing services, involves tests ordered by state or county governmental agencies commonly referred to as Child Support Enforcement Agencies, or CSEAs. In the US, CSEAs are required by law to identify the biological father of a child if the child is born out of wedlock, or in the case of divorce, if a presumptive father files a successful motion to have biological paternity questioned. In the US, effective October 1, 2006, the federal government decreased its reimbursement percentage of the costs of paternity testing incurred by CSEAs from 90% to 66%, which has caused us to experience severe pricing pressure in our government funded paternity services. The federal government reimburses the CSEAs, provided they abide by certain federal regulations. These regulations, which have aided the expansion of the market, provide incentives to the CSEAs to increase effectiveness and efficiency in their paternity establishment measures. We provide services to our government paternity clients under contracts which typically have a term of one to three years and are awarded in a competitive bidding process. The contract bidding process is highly competitive and the criteria used to determine the awards vary. Typically, specifications are issued in the form of a RFP or ITB and vendors respond with a sealed bid by a specified date. In some cases, contracts are awarded solely on the basis of price, while in other cases, a scoring matrix to achieve the desired mix of price, quality and service is used. In the UK, there is only one child support agency, administered by the Department for Work and Pensions, responsible for helping to identify the biological father of a child. We were selected in a competitive bidding process as the exclusive provider of such paternity testing services to this agency in 2005 and this contract has been extended through May 2010.

Private paternity testing

Private paternity testing is relationship DNA testing marketed and provided to private individuals. Our private paternity DNA testing services are provided in the US and UK to members of the public and legal and healthcare professionals. In addition to offering services directly to individuals, we have relationships with firms and individuals acting as our marketing agents in the US. We typically supply products and materials to these marketing agents and in return, the agent agrees to exclusively utilize our services for their customers seeking private paternity testing.

Immigration and other DNA testing

We also provide testing services to private individuals wishing to immigrate to the US, Canada and the UK, as well as to certain foreign government immigration agencies. This testing is done to verify claimed family relationships for visa applications. We provide this testing under contract or from an approved vendor list.

Our other DNA testing services include testing which is designed to help identify workers on high-risk assignments in the event of an emergency or accident, to confirm Native American genetic lineage for tribal enrollment and DNA profiling to allow individuals to preserve their genetic history.

Agricultural DNA Testing Services

Scrapie Genotyping

Through our facility in the UK, we conduct genotyping services under the UK government's project to help British farmers breed sheep with reduced susceptibility to the animal disease scrapie. The project has been part of the National Scrapie Plan, or NSP, for the UK developed by the Department for Environment, Food and Rural Affairs, or DEFRA, in conjunction with the Agriculture and Rural Affairs Departments in Scotland and Wales. Scrapie, one of the transmissible spongiform encephalopathies, is an untreatable, fatal disease, similar to mad-cow disease that affects sheep worldwide. Our genotyping service identifies sheep with SNPs associated with a genetic resistance to scrapie. DEFRA has provided the testing free of charge to sheep farmers as part of the NSP in order to help farmers breed sheep that are less susceptible to this disease. At the end of 2008, over 3 million sheep had been tested under the scheme and a significant improvement in the resistance to scrapie had been established in the UK flock. Our current agreement with DEFRA expires in September 2010. DEFRA will continue to have a requirement for scrapie genotyping for monitoring purposes but we anticipate that it will be at a much reduced volume and it is uncertain that we will be awarded a new contract for such testing. Therefore we expect our future agricultural testing services revenues will not be significant to our operating results.

Intellectual Property

We currently own, or have exclusive licenses to, 36 US issued patents and 72 foreign issued patents. Additionally, we have 4 pending patent applications. Of our existing patent portfolio, both issued and pending, approximately one-half primarily relates to microfluidic technology. The microfluidic technology patents do not relate to our business of DNA testing services. The remainder of our patent portfolio includes methods to identify and utilize SNPs. We have sought and intend to continue to seek patent protection for certain uses of SNPs in the genetic testing field. In cases where novel uses of SNPs have already been patented by a third party, we may need to obtain a license for the use of this technology to make use of or sell services or products using such technology. As of December 31, 2009, the majority of patents that we own or exclusively license have approximately five years remaining before they expire.

Our patent strategy is to protect existing intellectual property relevant to our focused business of DNA testing services. We rely on both patent and trade secret protection of our intellectual property. However, we cannot be certain that patents will be issued from any of our patent applications or that any issued patents will have sufficient breadth to offer meaningful protection. In addition, issued patents owned by us or patents licensed

to us may be successfully challenged, invalidated, circumvented or determined to be unenforceable so that our patent rights would not create an effective competitive barrier. The laws of some foreign countries may not protect our proprietary rights to the same extent as US laws. Our existing patent portfolio continues to reflect our international scope and includes pursuing patent protection mainly in North America and Europe.

We continue to maintain a number of out-license agreements that rely on technology we own claimed under US patent numbers 5,888,819, 6,013,431 and 6,004,744. We also provide agricultural testing services that rely on the technology claimed in the aforementioned patents, as well as technology we exclusively license claimed under patent number 5,846,710. We license these patents under exclusive agreements with Saint Louis University.

We further attempt to protect our trade secrets by entering into confidentiality agreements with third parties, employees and consultants. Our employees and certain of our consultants also sign agreements requiring that they assign to us their interests in discoveries, inventions, patents and copyrights arising from their work for us, maintain the confidentiality of our intellectual property and refrain from unfair competition with us during their employment and, in some cases, for a period of time after their employment with us, which includes solicitation of our employees and customers. We cannot assure you that these agreements will not be breached or invalidated. In addition, we cannot assure you that third parties will not independently discover or invent competing technologies or reverse engineer our trade secrets or other technologies.

This Annual Report on Form 10-K contains references to some of our trademarked products and services, for which we have filed registration applications with the US Patent and Trademark Office. All other trademarks or trade names referred to in this Annual Report on Form 10-K are the property of their respective owners.

Government Regulation

In the US, the paternity and forensic testing industries are not regulated by any governmental agency. Rather, each industry establishes and maintains standards and quality through voluntary third-party accreditation. The most widely recognized body covering paternity testing is the American Association of Blood Banks, or AABB. For forensic testing, the principal US entities that afford accreditation are ASCLD/LAB and NFSTC. All of our US facilities are accredited by the appropriate agency relative to the type of testing performed at that facility. Many of our contracts require us to maintain some or all of these accreditations.

In the UK, the NDNAD requires us, as a provider of forensic testing in the UK, to comply with the ISO 17025 standards described above.

In the US and UK, we are also subject to numerous environmental and safety laws and regulations, including those governing the use and disposal of hazardous materials. The cost of any possible violation of these regulations could have an adverse effect on our business and results of operations.

Employees

As of December 31, 2009, we had 466 employees. None of our employees are represented by a collective bargaining agreement, nor have we experienced any work stoppages. We believe that we maintain good relationships with our employees. Our success will depend in part on our ability to attract and retain skilled and experienced employees, including our ability to recruit an adequate number of trained DNA analysts.

Competition

In each of our markets, we compete with other companies offering services that are similar to those that we offer. In addition, in the US, government laboratories also provide forensic DNA testing services for their jurisdictions, which is a significant share of the testing done in the US. Some of our competitors have greater

financial, operational, sales and marketing resources and more experience in research and development and commercialization than we have. Other competitors have been acquired during the last 18 months by private equity firms and may have additional resources through such acquisitions. Moreover, some competitors may have greater name recognition than we do, and may offer discounts on their services or products as a competitive tactic.

In the field of forensic DNA testing, our competitors include the following entities: GlobalOptions Group, Sorenson Genomics and Laboratory Corporation of America in the US, along with Forensic Science Service, LGC and Key Forensics in the UK. Our competitors in the field of family relationship testing include the following entities: Laboratory Corporation of America, DNA Diagnostics, Sorenson Genomics and Paternity Testing Corporation in the US, along with Crucial Genetics, Anglia DNA, LGC, Forensic Science Service, DadCheck, DNA Bioscience, The Paternity Company, DNA Now and DNA Diagnostics in the UK.

Item 1A. RISK FACTORS

If any of the matters included in the following risks were to occur, our business, financial condition, results of operations, cash flows or prospects could be materially adversely affected. In such case, the value of our common stock could decline and you could lose all or part of your investment.

Risks Related to Our Business

If we fail to maintain the service contracts we have with various governmental agencies or fail to enter into additional contracts, we would lose a significant source of revenues.

We currently derive almost all of our revenues from the forensic, family relationship and agricultural testing fields. These services are heavily dependent upon contracts with various governmental agencies, which are typically open to bids and usually have a term from one to three years. The process and criteria for these awards are typically complex and highly competitive, particularly with respect to the price of the services offered. Bid awards also are subject to protests which can be expensive to prosecute or defend and which may delay the awarding of a contract. Although we have not previously been debarred or disqualified for breach or non-performance of any contract, if such debarment or disqualification were to occur, we may not be awarded future government contracts. For example, we expect the police forces in the UK to solicit initial tenders for forensic services through the UK's National Procurement Plan by the end of 2011. If we are unable to successfully bid on a significant portion of this work, our UK revenues and results of operations could be adversely affected. We may not be able to maintain any of our existing governmental contracts or be the successful bidder on any additional governmental contracts which may become available in the future, or we may not be able to negotiate terms acceptable to us in connection with any governmental contract awarded to us, which could adversely affect our results of operations and financial condition.

The markets in which we participate are very competitive and price sensitive, and if we do not compete effectively, our operating results may be harmed.

The markets for DNA testing services in the US and the UK are very competitive and we expect competition to intensify in the future. Pricing pressures and increased competition generally could result in reduced sales, reduced margins or our failure to increase market share. In each of our markets, we compete with other companies offering services that are similar to those that we offer. In both the US and the UK, we have experienced lower average selling prices per sample as a result of significant price competition. In addition, in the US, government laboratories also provide forensic DNA testing services for their jurisdictions, which is a significant portion of all forensic DNA testing done in the US. Some of our competitors have greater financial, operational, sales and marketing resources and more experience in research and development and commercialization than us. Other competitors have been acquired during the last 18 months by private equity firms and may have additional resources through such acquisitions. Moreover, some competitors may have greater name recognition than us, and may offer discounts on their services or products as a competitive tactic.

Many of our customers, or the contracts on which we bid, are price sensitive, and a critical aspect of our business is determining the appropriate prices for our services. As the market for our services matures, or as new competitors compete with our services, we may be unable to renew our agreements with existing customers, attract new customers at the same price or based on the same pricing model as previously used, or win competitive bids with governmental agencies. As a result, it is possible that competitive dynamics in our market may require us to change our pricing model or reduce our prices, which could harm our revenue, gross margin and operating results. In addition, our ability to obtain awards under the UK's National Procurement Plan will directly impact our UK revenues over the next few years, and if our bidding under this plan is unsuccessful, our business, results of operation and financial condition could be adversely impacted.

We cannot guarantee the receipt of work or revenues from our government contracts.

We regularly compete in an open bid forum in order to secure or renew contracts with various law enforcement and governmental agencies for the provision of DNA-based testing services. A contract award may be subject to funding obligations by the applicable government and there can be no assurances that such funding will be renewed. Many contracts with governmental agencies allow for the agency to terminate a contract at any time if funding is not available to pay for our services. There also may be operational factors that disrupt the flow of work to us. For example, a previous shipment of samples from a state lab under a CODIS contract was delayed because the state did not have adequate personnel to prepare the samples for shipment to our test facility. Thus, we are not always able to rely on a fixed amount of revenue based on services provided under these contracts. These administrative and operational issues are beyond our control and may delay the receipt of work under an award, which may have an adverse effect on our results of operations and financial condition during a given fiscal period.

We cannot guarantee that we will be awarded a significant portion of the service packages under the UK's National Procurement Plan.

We expect the police forces in the UK to solicit initial tenders for forensics services through the UK's National Procurement Plan, a formalized bidding process implemented in 2008, by the end of 2011. Although we were awarded a significant portion of the service packages we bid on in the North West/South West and Wales regional tender, we cannot guarantee that we will win a significant portion of the service packages under the National Procurement Plan. If we are unsuccessful in securing a sufficient number of service packages under the National Procurement Plan, our results of operations and financial condition would be materially adversely affected.

If we fail to provide adequate service levels to police forces under the U.K. National Procurement Plan, we may be required to issue service credits which would reduce the amounts payable for our services and adversely affect our business.

Under the National Procurement Plan in the U.K., we are contractually obligated to meet certain service levels, such as turnaround time, when delivering forensic services to participating police forces. If we fail to meet these service levels, the applicable police force is entitled to a service credit which reduces the amount payable to us by 2% to 10% depending on the degree of the service failure. In such event, the amounts payable for our services could be significantly reduced and our results of operations and financial condition could be adversely affected.

Work awarded to us in the UK may be subject to unanticipated TUPE expenses.

DNA testing work awarded to us in the UK may be subject to the hiring or compensatory obligations under the UK's Transfer of Undertakings (Protection of Employment), or TUPE, regulations. TUPE is the UK employment legislation that governs the transfer of employment obligations from one party to another. If we are unable to properly anticipate the amount of TUPE-related expenses, we may not realize the benefits of a DNA

testing contract awarded to us. If we are obligated to pay a significant amount of TUPE-related expenses in connection with any award, our results of operations financial condition could be adversely affected.

International sales are subject to increased costs and other risks, which could affect our revenues.

Our business includes international sales which are subject to certain inherent risks, including difficulties in collecting accounts receivable, potentially longer payment cycles, increased costs associated with maintaining international marketing efforts, currency fluctuations as they impact reported results, changes in regulatory requirements and difficulties in enforcement of contractual obligations and intellectual property rights. During 2009, we derived approximately 50% of our revenues from international sales. The significant percentage of our revenue derived from our UK operations makes us vulnerable to future fluctuations in the exchange rate. For the year ended December 31, 2009, as compared to 2008, our UK revenues were unfavorably impacted approximately 15% as a result of the exchange rate movement of the British pound as compared to the US dollar, and future material adverse exchange rate movements would have an additional unfavorable translation impact on our consolidated financial results.

If general economic trends continue to decline, trends in government spending and, therefore, demand for DNA testing services may change and reduce demand for our services, which would have a materially negative impact on our business.

A majority of our revenue is derived from contracts with various law enforcement and governmental agencies for the provision of DNA-based testing services. Many national, state and local government entities are currently experiencing severe financial distress due to global economic conditions. Current economic conditions may adversely affect the ability of our government customers to fund their operating budgets. During the year ended December 31, 2009, a few government customers sought price reductions from all vendors and suppliers, including DNA testing providers like us because of budgetary concerns. As a result our government customers may reduce budgets, which could have a negative effect on our revenue, gross margin and operating results. Any adverse impact of economic conditions on us is difficult to predict but it may result in reductions in demand for our DNA testing services. If events negatively impact the economy, our results of operations may be adversely affected.

Changes in outsourcing trends for forensic DNA testing could adversely affect our operating results and growth rate.

Our forensic revenues depend greatly on the expenditures made by government entities for DNA testing for forensic casework and CODIS. Accordingly, economic factors and industry trends that affect our government customers also affect our business. For example, the practice of many state governments in the US has been to engage outside organizations like us to conduct forensic DNA testing. This practice has grown significantly in the last decade, and we have benefited from this trend. However, if this trend was to change and states were to reduce the amount of forensic DNA testing they outsource, our results of operations and financial condition could be materially adversely affected.

If government funding is not available to reduce the rape kit backlog or if this work is not outsourced to private laboratories, our business may be adversely affected.

A significant portion of our North American forensic revenue in 2009 was derived from contracts with various law enforcement and governmental agencies for the provision of DNA testing services related to rape kits held in evidence backlog. Although the Senate Judiciary Committee held hearings on this topic in December 2009, there is no assurance that the reduction of the rape kit backlog will be adequately funded by federal or state governments or that such work will be outsourced to private laboratories such as us. If government funding is not made available to reduce the rape kit backlog or if such rape kits are not outsourced to private laboratories such as us, our results of operations and financial condition may be adversely affected.

Recent turmoil across various sectors of the financial markets may negatively impact our business.

In recent years, the various sectors of the credit markets and the financial services industry have been experiencing a period of unprecedented turmoil and upheaval characterized by the disruption in credit markets and availability of credit and other financing, the failure, bankruptcy, collapse or sale of various financial institutions and an unprecedented level of intervention from the US and foreign governments. While the ultimate outcome of these events cannot be predicted, they may have a material adverse effect on our ability to obtain financing necessary to effectively execute our long-term strategies, and this could have a material adverse effect on the market price of our common stock and our business, results of operations and financial condition.

The change in the method of awarding CODIS contracts has adversely affected our CODIS business.

Prior to 2008, the NIJ administered all federally-funded CODIS awards to the participating states, including the selection of the DNA testing vendor. Starting in 2008, however, the states were given the option to apply for grants from the NIJ and administer the awards directly. Each state would then select the vendor, or vendors, to process their DNA samples, rather than the NIJ making that selection. As a result of this new award option, the number of states issuing CODIS bids in 2008 and 2009 decreased significantly. We believe that backlogs of DNA samples at the state level are increasing and that states will eventually move to administer the awards in order to bring down backlogs. We also believe that excess CODIS capacity has been built-up in the private sector and this may affect pricing in the future. If states do not seek competitive bids for this CODIS work in a timely manner or if we are unsuccessful in securing a sufficient number of CODIS awards at acceptable prices in the future, our results of operations and financial condition would be materially adversely affected.

We are currently consolidating our US paternity testing and forensic testing operations, and if we fail to manage these consolidations, our business may suffer.

We currently are consolidating our US laboratory testing facilities. On October 20, 2009, we announced the consolidation of our East Lansing, Michigan paternity testing operations into our Dayton, Ohio facility. We expect to complete this consolidation and close our East Lansing facility by July 1, 2010. On January 14, 2010, we announced the consolidation of our Nashville, Tennessee forensic DNA testing facility to our Dallas, Texas facility. We expect to complete this consolidation and close our Nashville facility by August 31, 2010. We believe these consolidations may lead to additional operational efficiencies, plant and equipment cost reductions and increased scalability. We currently expect to incur cash expenditures in connection with these consolidations of $1.8 million to $2.3 million in the aggregate. These consolidations could strain our operational, human and financial resources. If we fail to properly manage these consolidations, our results of operations and financial condition might be adversely affected. Consolidating facilities also includes transferring certain customer work from one facility to another. A failure to properly manage these customer transfers could result in the loss of business. In order to manage these consolidations, we must:

- successfully integrate additional work at our existing paternity testing and forensic testing facilities;
- successfully integrate new and transferring employees into our expanded testing facilities in Dayton, Ohio and Dallas, Texas;
- continue to improve operating efficiencies;
- successfully transfer customer work from our East Lansing Michigan facility to our Dayton, Ohio facility and from our Nashville, Tennessee facility to our Dallas, Texas facility;
- successfully expand our Dallas, Texas facility to establish a dedicated CODIS laboratory that is accredited and capable of full production testing; and
- successfully attract additional technical personnel for our testing facilities in Dayton, Ohio and Dallas, Texas.

We currently are building a new CODIS laboratory at our Dallas, Texas facility, and if we fail to properly manage the establishment of this new laboratory, our business may suffer.

As part of the consolidation of our US forensic testing laboratories, we are establishing a new CODIS laboratory in our Dallas, Texas facility. We have leased additional space at our Dallas location and will need to make certain capital expenditures to build this new laboratory. If we fail to properly manage the establishment of this new CODIS laboratory, our results of operations and financial condition might be adversely affected. In order to manage the establishment of this new CODIS laboratory, we must:

- successfully transfer laboratory personnel from our Nashville facility to the Dallas facility;
- successfully hire additional laboratory personnel for this new facility;
- successfully procure and install laboratory equipment in the new CODIS facility;
- successfully validate our CODIS processes for the new laboratory; and
- successfully gain applicable forensic accreditations.

If we fail to build this new facility on a timely basis or fail to obtain the proper forensic accreditations, our business might be adversely affected.

If we fail to comply with industry regulations and accreditations, we may not be able to provide certain services at our laboratories.

All of our laboratory facilities must comply with various industry regulations and accreditation standards in order to continue to provide our paternity testing, forensic casework testing and CODIS testing. For example, our paternity laboratories in the U.S. have obtained accreditation from the AABB in order to provide paternity testing, and our forensic laboratories in the U.S. are accredited by from ASCLD/LAB and NFSTC. In addition, our UK laboratory must maintain ISO 17025 accreditation in order to continue to provide forensic testing services. We cannot assure you that we will be able to maintain our accreditations with any of these authorities as requirements and standards may change from time to time. The loss of our accreditations could adversely affect our existing contracts which, in many cases, require that we maintain these accreditations, and could adversely affect our ability to enter into new contracts. As a result the loss of any such accreditation, our revenues could be eliminated or significantly reduced.

Our testing activities also involve the controlled use of hazardous materials. We are subject to laws and regulations governing the use, storage, handling and disposal of such materials and certain waste products, as well as the conveyance, processing and storage of biological specimens. If we were in violation of any laws or regulations pertaining to the handling or use of hazardous materials, the remediation costs could be significant and could have an adverse effect on our results of operations and financial condition.

We currently rely primarily on a single supplier for the majority of reagents and other components we need for the performance of our DNA testing services.

We utilize one supplier through which we purchase the majority of reagents and other components for use in our DNA testing services. In the event that we are unable to obtain supplies from this supplier, we do have the ability to purchase reagents and components from other suppliers. However, if we had to switch to a different supplier or multiple suppliers, we would be required to obtain the approval of certain of our customers and we also may be required to change the instruments on which we perform DNA testing services, which could require significant capital investment. In addition, we receive and expect to continue to receive substantial discounts based upon reaching a specific threshold of purchases per year of reagents and other components from our current supplier. If we fail to reach the required threshold of purchases in any one year, our future discounts on purchases of reagents and other components from our current supplier would decrease, which could have an adverse effect on our results of operations and financial condition.

Our future sales and marketing efforts may not be successful in achieving revenue growth.

We plan to continue to market our services to governmental agencies, commercial companies and private individuals. Our ability to successfully obtain new business, and where appropriate, enter into and maintain agreements with our customers, depends in part on the quality and pricing of our services. If we are unable to successfully implement our marketing plans, fail to maintain or enhance the quality of our services, or fail to offer attractive pricing for our services, our results of operations and financial condition could be adversely affected.

We have limited sales and marketing resources, and as a result, we may not achieve our expected levels of revenue.

We currently have limited sales and marketing resources and we are subject to the possibility that our competitors may recruit our employees. As of December 31, 2009, only one of our key sales and marketing employees had an employment contract with us. We also do not maintain key man life insurance policies for any of our key sales and marketing employees. Our sales and marketing resources are used to market our services to governmental agencies, commercial companies and private individuals. If our limited sales and marketing resources become inadequate, our results of operations and financial condition could be adversely affected.

Future acquisitions or mergers could disrupt our ongoing operations, increase our expenses and adversely affect our revenues.

Although we have no commitments or agreements with respect to any acquisitions or mergers at present, we anticipate that a portion of our future growth may be accomplished either by acquiring or merging with existing businesses. Factors that will affect the success of any potential acquisition or merger to be made by us include our ability to integrate acquired personnel, operations, products and technologies into our organization effectively, to motivate personnel and to retain customers of acquired or merged businesses. We may not be able to identify suitable acquisition or merger opportunities, obtain necessary financing for an acquisition on acceptable terms or successfully integrate acquired personnel and operations. While we have not experienced material disruption to our ongoing business or distraction to our management and employees as a result of past acquisitions, we may experience such disruptions or distractions in the future.

We had an accumulated deficit of $326 million as of December 31, 2009. If we fail to reach profitability and need to raise additional capital to fund our current and future operating plans or obtain such capital on unfavorable terms, then we may have to take further cost-cutting measures.

We have expended significant resources developing our facilities and funding commercialization activities. As a result, we have incurred significant losses to date. We had net losses of $1.5 million, $4.5 million and $3.0 million for the years ended December 31, 2009, 2008 and 2007, respectively. We anticipate that our existing cash on hand will be sufficient to fund our operations at least through the next twelve months. If we fail to reach cash flow self sufficiency, however, we may need to raise additional funds through the sale of equity, convertible debt or equity-linked securities and we may have to further review our existing operations to determine new cost cutting measures, such as further consolidation of operational facilities and reductions in staff. We may not be able to raise additional funds or raise funds on terms that are acceptable to us. If financing is not available to us in the future, or is not available on terms acceptable to us, we may not be able to fund our future operating needs. If we raise funds through equity or convertible securities, our stockholders may experience dilution and our stock price may decline.

We may be held liable for any inaccuracies associated with our services, which may require us to defend ourselves in costly litigation.

We provide forensic, family relationship and agricultural testing services. Claims may be brought against us for incorrect identification of family relationships or other inaccuracies. Litigation of these claims in most cases

is covered by our existing insurance policies. However, we could expend significant funds during any litigation proceeding brought against us and litigation can be a distraction to management and our operations. If a court were to require us to pay damages that are not covered by our existing insurance policies, the amount of such damages could significantly harm our financial condition, and even if covered, damages could exceed our insurance policy coverage limits. Our current professional liability insurance policy contains a maximum coverage limitation of $10 million. We have been named a defendant in a number of minor suits relating to our DNA testing services, including claims of incorrect results. However, none of the outcomes of these suits have had a material adverse effect on our business to date.

Our improvement of existing technologies and our ability to capture and develop future technologies to be utilized in our service offerings may not be commercially successful, which could adversely affect our revenues.

We are currently developing and commercializing a limited number of services based on our technologies in DNA testing of humans and for agricultural purposes. These services involve uses of products, software and technologies that require validation for commercial application, and we cannot assure you that we or our customers will be able to recognize a cost-effective, commercial benefit in using our technology. In addition, any assays we develop utilizing SNP analysis technology may not be useful in assisting in food safety testing. Only a limited number of companies have developed or commercialized services based on SNP technology to date. Accordingly, even if we or our customers are successful in developing effective assays utilizing SNP technology for food safety testing, we cannot assure you that these discoveries will lead to commercially successful service offerings. If we fail to successfully develop our SNP technologies or any services based on such technologies, we may not achieve a competitive position in the market.

We may be unable to hire an adequate number of DNA analysts or successfully apply new technology.

Our growth and future operating results will depend, in part, upon our ability to recruit an adequate number of trained DNA analysts. Our growth and future operating results will also depend, in part, upon our ability to apply new technologies to automate and improve our DNA testing services to take advantage of new technologies. There can be no assurance that our development efforts will result in any additional commercially viable or successful improvements or efficiencies to our testing processes. Any potential improvements to the testing process may require substantial additional investment and possibly regulatory approvals, prior to implementation. Our inability to recruit trained DNA analysts, attract laboratory personnel for our expanded facility in Dallas, Texas, develop improvements to our testing processes, increase efficiencies, or achieve market acceptance of such improvements could have a material adverse effect on our business, financial condition and results of operations.

Our ability to provide services may be seriously impaired by the occurrence of a natural disaster affecting any one or more of our laboratories.

Should we experience the occurrence of a natural disaster affecting one or more of our laboratories such that we would be unable to continue to provide services out of a particular facility for an extended period of time, and we were not able to scale up operations at our other facilities in order to continue to provide such services, we would be at risk of losing significant contractual revenue from governmental agencies. Many of our governmental agency contracts allow for the agency to terminate the contract early if we become unable to continue to render such services for an extended period of time, usually 90 days or more, for any reason, including the occurrence of a natural disaster. While we have multiple facilities, and may be able to shift operations from one facility to another in the event of a natural disaster, thereby mitigating the effects thereof, we cannot assure you that any such transition will occur or be successful, particularly in light of our ongoing consolidation of our US facilities.

Although we carry insurance for recovery in the instance of a natural disaster, the limits of this insurance are $24 million, and it is possible that our coverage will not be the same in all locations or that a loss in such an instance could exceed our ability to recover such costs.

Our success will depend partly on our ability to operate without misappropriating the intellectual property rights of others.

We may be sued for infringing, or may initiate litigation to determine that we are not infringing, on the intellectual property rights of others. Intellectual property litigation is costly, and could adversely affect our results of operations. If we do not prevail in any intellectual property litigation, we might have to pay damages, and we could be required to stop the infringing activity, or be required to obtain a license to or design around the intellectual property in question. If we are unable to obtain a required license on acceptable terms, or are unable to practice non-infringing technologies or processes, we may be unable to sell some of our services, which would result in reduced revenues. We are named a defendant in a patent litigation matter. However, we believe we had the right to practice such technology by virtue of a third-party agreement, and we are actively engaged in defending this litigation. Other than the foregoing, we are not aware of any assertions that we are misappropriating the intellectual property rights of others.

The scope of our issued patents may not provide us with adequate protection of our intellectual property, which would harm our competitive position.

Any issued patents that cover our proprietary technologies may not provide us with substantial protection or be commercially beneficial to us. In addition, we may not be able to obtain new patents for technologies and services material to our business. The issuance of a patent may be challenged with respect to its validity or its enforceability. The US Patent and Trademark Office (or a court of appropriate jurisdiction), or any one of a number of foreign patent offices where we have pursued patent protection, may invalidate one or more of our patents. In addition, third parties may have patents of their own which could, if asserted, prevent us from practicing our proprietary technologies, including the methods we use to conduct DNA testing. If we are otherwise unable to practice our patented technologies, we may not be able to commercialize our technologies or services.

We may need to initiate lawsuits to protect or enforce our patents and other intellectual property rights, which could result in the forfeiture of these rights.

In order to protect or enforce our patent rights, we may need to initiate patent litigation against third parties. These lawsuits could be expensive, take significant time and divert management's attention from other business concerns. These lawsuits could result in the invalidation or a limitation in the scope of our patents or forfeiture of the rights associated with our patents. We cannot assure you that we will prevail in any future litigation or that a court will not find damages or award other remedies in favor of the opposing party in any of these suits. We also may not have the resources to aggressively protect and enforce existing protection. During the course of these suits, there may be public announcements of the results of hearings, motions and other interim proceedings or developments in the litigation. Securities analysts or investors may perceive these announcements to be negative, which could cause the market price of our stock to decline.

Other rights and measures that we rely upon to protect our intellectual property may not be adequate to protect our services and could reduce our ability to compete in the market.

In addition to patents, we rely on a combination of trade secrets, copyright and trademark laws, non-disclosure agreements and other contractual provisions and technical measures to protect our intellectual property rights. While we require employees, collaborators, consultants and other third parties to enter into confidentiality and/or non-disclosure agreements where appropriate, any of the following could still occur:

- the agreements may be breached;

- we may have inadequate remedies for any breach;
- proprietary information could be disclosed to our competitors; or
- others may independently develop substantially equivalent proprietary information and techniques or otherwise gain access to our trade secrets or disclose such technologies.

To our knowledge, we have never been materially harmed by a breach under any of the circumstances listed above. However, if our intellectual property is disclosed or misappropriated, it would harm both our ability to protect our rights and our competitive position. The pursuit of a remedy for such an alleged breach may require a substantial amount of our resources, time, effort and expenses.

We may be required to record additional significant charges to earnings if our goodwill becomes impaired.

Under generally accepted accounting principles in the US, we review our goodwill for impairment each year as of December 31 and when certain events or changes in circumstances indicate that the carrying value of our goodwill may not be recoverable, we must record a charge against our earnings for the period in question. Our goodwill may become impaired due to factors such as a decline in our stock price and market capitalization, reduced estimates of future cash flows and slower growth rates in our industry. Estimates of future cash flows are based on long-term financial forecasts of our operations, which are subject to change if actual results differ materially from the estimates. If we are required to record a charge to earnings in our financial statements during a period in which an impairment of our goodwill is determined to exist, our results of operations for the period would be negatively impacted.

Our ability to utilize our net operating loss carryforwards and other tax benefits may be limited.

As of December 31, 2009, we had $250.0 million and $66.2 million of federal and state net operating loss, or NOL, carryforwards, respectively, available to offset future taxable income. Some of our federal and state NOL carryforwards have begun to expire. Utilization of our NOL carryforwards to offset future taxable income, if any, may be substantially limited due to the "change of ownership" provisions in the Tax Reform Act of 1986, or the Act. The Act provides for a limitation on the annual use of NOL carryforwards and research and development credits following certain ownership changes, as defined by the Act, which could significantly limit our ability to utilize or sell these carryforwards and research and development credits. We have determined that an ownership change, as defined by the Act, occurred in 1999 and as a result $41.4 million of our NOL carryforwards are limited. We may have experienced other ownership changes as a result of past financings and may experience others in connection with future financings. Accordingly, our ability to utilize the aforementioned federal NOL carryforwards may be further limited.

Risks Associated with Our Common Stock

Future issuance of our securities may dilute the ownership interests of our stockholders.

Our Board of Directors has the authority to issue shares of preferred stock and to determine the price, preferences, privileges and other terms of those shares. Our Board of Directors may exercise this authority without any further approval of our stockholders. Additionally, if we need to raise additional funds through the sale of equity, convertible debt or equity-linked securities, your percentage ownership in us on a diluted basis will be reduced. These transactions may dilute the value of our outstanding common stock. We may also issue securities that have rights, preferences and privileges senior to our common stock.

There are a limited number of stockholders who have significant control over our common stock, allowing them to have significant influence over the outcome of all matters submitted to our stockholders for approval, which may conflict with the interests of our other stockholders.

Four of our principal stockholders (stockholders owning 5% or more of our common stock) beneficially owned approximately 41% of the outstanding shares of common stock at December 31, 2009, and such

stockholders will have significant influence over the outcome of all matters submitted to our stockholders for approval, including the election of our directors and other corporate actions. In addition, such influence by these stockholders could have the effect of delaying or impeding a change in control and could have an adverse effect on the market price of our stock.

We have various mechanisms in place that stockholders may not consider favorable, which may discourage takeover attempts and may prevent or frustrate attempts by stockholders to change our direction or management.

Certain provisions of our certificate of incorporation and by-laws, as well as Section 203 of the Delaware General Corporation Law and our adoption of a stockholder rights plan, may discourage, delay or prevent a change in control or the ability of stockholders to change our direction or management, even if the changes would be beneficial to stockholders. These provisions:

- authorize the issuance of "blank check" preferred stock that could be designated and issued by our Board of Directors to increase the number of outstanding shares and thwart a takeover attempt;
- create a classified board of directors with staggered, three-year terms, which may lengthen the time required to gain control of our Board of Directors;
- prohibit cumulative voting in the election of directors, which will allow a majority of stockholders to control the election of all directors;
- require super-majority voting to effect certain amendments to our certificate of incorporation and by-laws;
- limit who may call special meetings of stockholders;
- prohibit stockholder action by written consent, which requires all stockholder actions to be taken at a meeting of stockholders; and
- establish advance notice requirements for nominations of candidates for election to our Board of Directors or for proposing matters that can be acted upon by stockholders at stockholder meetings.

In addition, pursuant to our stockholder rights plan, each share of our common stock has an associated preferred share purchase right. The rights will not trade separately from the common stock until, and are generally exercisable only upon, the acquisition or the potential acquisition through tender offer by a person or group of 15% or more of our outstanding common stock.

Our stock price has been, and likely will continue to be, volatile and your investment may suffer a decline in value.

The market prices for securities of companies quoted on The NASDAQ Stock Market, or NASDAQ, including our market price, have in the past been, and are likely to continue in the future to be, very volatile. Between January 1, 2008 and December 31, 2009, the closing price of our common stock ranged from a low of $0.47 to a high of $5.50. The market price of our common stock has been, and likely will continue to be, subject to substantial volatility depending upon many factors, many of which are beyond our control, including:

- announcements regarding the results of development efforts by us or our competitors;
- announcements regarding the acquisition of technologies or companies by us or our competitors;
- changes in our existing development or licensing arrangements or formation of new development or licensing arrangements;
- the loss of existing business;

- our inability to secure new contractual relationships for our DNA testing services or new volume of testing samples at acceptable prices;
- technological innovations or new service offerings developed by us or our competitors;
- changes in our intellectual property portfolio;
- developments or disputes concerning our proprietary rights;
- issuance of new or changed securities analysts' reports and/or recommendations applicable to us;
- additions or departures of our key personnel;
- our operating losses; and
- continued economic uncertainty with respect to the valuation of certain technology companies and other market conditions.

The liquidity of our common stock could be adversely affected if we are delisted from the NASDAQ Global Market.

Pursuant to NASDAQ Marketplace Rule 5810, we are required to have a minimum bid price of at least $1.00. The closing price of our common stock was below $1.00 per share from November 20, 2008 through April 29, 2009. The closing price of our common stock has remained above $1.00 per share since May 5, 2009 and we currently are in compliance with this listing requirement. On March 1, 2010, the closing price of our common stock was $1.42.

There can be no assurance, however, that the closing price of our common stock will remain above $1.00 per share or that we will otherwise be able to maintain the listing of our common stock on the NASDAQ Global Market. Delisting from NASDAQ would make trading our common stock more difficult for investors, potentially leading to further declines in our share price. Without a NASDAQ listing, stockholders may have a difficult time getting a quote for the sale or purchase of our stock, the sale or purchase of our stock would likely be made more difficult and the trading volume and liquidity of our stock would likely decline. Delisting from NASDAQ would also result in negative publicity and would also make it more difficult for us to raise additional capital. The absence of such a listing may adversely affect the acceptance of our common stock as currency or the value accorded it by other parties. Further, if we are delisted, we would also incur additional costs under state blue sky laws in connection with any sales of our securities. These requirements could severely limit the market liquidity of our common stock and the ability of our stockholders to sell our common stock in the secondary market.

If faced with delisting, we would have an opportunity to appeal NASDAQ's determination or we may submit an application to transfer the listing of our common stock to the NASDAQ Capital Market. Alternatively, if our common stock is delisted by NASDAQ, our common stock would be eligible to trade on the OTC Bulletin Board, another over-the-counter quotation system, or on the pink sheets where an investor may find it more difficult to dispose of or obtain accurate quotations as to the market value of our common stock. We cannot assure you that our common stock, if delisted from the NASDAQ Global Market, will be listed on a national securities exchange, a national quotation service, the OTC Bulletin Board or the pink sheets.

If we are delisted from the NASDAQ Global Market and we are not able to transfer the listing of our common stock to the NASDAQ Capital Market, our common stock likely will become a "penny stock." In general, regulations of the SEC define a "penny stock" to be an equity security that is not listed on a national securities exchange and that has a market price of less than $5.00 per share, subject to certain exceptions. If our common stock becomes a penny stock, additional sales practice requirements would be imposed on broker-dealers that sell such securities to persons other than certain qualified investors. For transactions involving a penny stock, unless exempt, a broker-dealer must make a special suitability determination for the purchaser and receive the purchaser's written consent to the transaction prior to the sale. In addition, the rules on penny stocks

require delivery, prior to and after any penny stock transaction, of disclosures required by the SEC. If our common stock were subject to the rules on penny stocks, the market liquidity for our common stock could be severely and adversely affected. Accordingly, the ability of holders of our common stock to sell their shares in the secondary market may also be adversely affected.

Fluctuations in our operating results may negatively impact our stock price.

Our revenues and results of operations have fluctuated significantly in the past and these fluctuations are likely to continue in the future due to a variety of factors, many of which are outside of our control. These factors include:

- the timing of US federal funding for forensic DNA testing through the NIJ and that of state agencies;
- our ability to secure new contractual relationships for forensic, family relationship and agricultural testing or retain existing relationships upon contract expirations;
- the successful consolidation of our US operations;
- the volume and timing of testing samples received in our laboratories for testing services;
- the number of trained DNA analysts which are available to process the samples for testing services;
- the number, timing and significance of new services introduced by our competitors;
- our ability to develop, market and introduce new services on a timely basis;
- our ability to maintain and grow the volume of forensic testing services in the UK through directly providing our services to UK police forces and winning awards under the National Procurement Plan;
- changes in the cost, quality and availability of intellectual property and components required to perform our services; and
- availability of commercial and government funding to researchers who use our services.

Fixed operating costs associated with our technologies and services, as well as personnel costs, marketing and sales programs and overhead costs, account for a substantial portion of our operating expenses. We cannot adjust these expenses quickly in the short term. If our testing volumes and related pricing decline due to market pressure, our revenues will decline and we may not be able to reduce our operating expenses accordingly. Our loss of revenues and failure to reduce operating expenses would harm our operating results. In addition, market and other conditions may require certain non-cash charges such as impairment charges related to long-lived assets and restructuring charges to be recorded by us in future periods. If our operating results in any quarter or quarters fail to meet the expectations of public market analysts or investors, the market price of our common stock is likely to fall. We cannot assure you that your investment in our common stock will not fluctuate significantly.

One or more of these factors or events could significantly harm our business and cause a decline in the price of our common stock in the public market.

Item 1B. UNRESOLVED STAFF COMMENTS

Not applicable.

Item 2. PROPERTIES

We lease an approximately 11,000 square foot facility in Princeton, New Jersey, which serves as our corporate headquarters. We lease an approximately 26,000 square foot facility in Dallas, Texas, an approximately 18,000 square foot facility in Nashville, Tennessee, an approximately 17,000 square foot facility in Dayton, Ohio

and an approximately 9,000 square foot facility in East Lansing, Michigan. In October 2009 and January 2010, we announced the consolidation of our US paternity testing services and US forensic testing services, respectively. As a result of these consolidations, we are in the process of closing our East Lancing, Michigan facility and consolidating its operations into our Dayton, Ohio facility and closing our Nashville, Tennessee facility and consolidating its operations into our Dallas, Texas facility. We are also building out a new CODIS laboratory in our Dallas facility. We expect these consolidations and build out to be completed in the third quarter of 2010. We also completed the closure of our facility in New Orleans, Louisiana, acquired as part of our purchase of ReliaGene, in the first quarter of 2010. In addition, we lease a total of approximately 58,000 square feet in two UK locations, Abingdon, which houses our UK headquarters and laboratories, and Chorley, our satellite facility that we set up to help service the work we were awarded under North West/South West and Wales regional tender. We currently believe our facilities are sufficient to meet our space requirements through at least the next twelve months.

Item 3. LEGAL PROCEEDINGS

On or about November 21, 2001, a complaint was filed in the United States District Court for the Southern District of New York naming us as a defendant, along with certain of our former officers and underwriters. An amended complaint was filed on April 19, 2002. The complaint, as amended, purportedly was filed on behalf of persons purchasing our stock between May 4, 2000 and December 6, 2000, and alleges violations of Sections 11, 12(a)(2) and 15 of the Securities Act of 1933, as amended, and Sections 10(b) and 20(a) of the Securities Exchange Act of 1934, as amended, and Rule 10b-5 promulgated thereunder. The amended complaint alleges that, in connection with our May 5, 2000 initial public offering, or IPO, the defendants failed to disclose additional and excessive commissions purportedly solicited by and paid to the underwriter defendants in exchange for allocating shares of our stock to preferred customers and alleged agreements among the underwriter defendants and preferred customers tying the allocation of IPO shares to agreements to make additional aftermarket purchases at pre-determined prices. Plaintiffs claim that the failure to disclose these alleged arrangements made our registration statement on Form S-1 filed with the SEC in May 2000 and the prospectus, a part of the registration statement, materially false and misleading. On or about July 15, 2002, we filed a motion to dismiss all of the claims against us and our former officers. On October 9, 2002, the Court dismissed without prejudice only our former officers, Dale R. Pfost and Donald R. Marvin, from the litigation in exchange for us entering into a tolling agreement with plaintiffs' executive committee. On February 19, 2003, we received notice of the Court's decision to dismiss the Section 10(b) claims against us. Plaintiffs and the defendant issuers involved in related IPO securities litigation, including us, have agreed in principal on a settlement that, upon a one-time surety payment by the defendant issuers' insurers, would release the defendant issuers and the individual officers and directors from claims and any future payments or out-of-pocket costs. On March 10, 2005, the Court issued a memorandum and order (i) preliminarily approving the settlement, contingent on the parties' agreement on modifications of the proposed bar order in the settlement documents, (ii) certifying the parties' proposed settlement classes, (iii) certifying the proposed class representatives for the purposes of the settlement only and (iv) setting a further hearing for the purposes of (a) making a final determination as to the form, substance and program of notice of proposed settlement and (b) scheduling a public fairness hearing in order to determine whether the settlement can be finally approved by the Court. On April 24, 2006, the Court held a fairness hearing and took the motion for final approval under advisement. On October 5, 2009, the Court granted the plaintiffs' motion for an order of final approval of the settlement, plan of allocation and certification of the class. Such settlement does not require any payment by us to the plaintiffs.

In related proceedings against the underwriters, the United States Court of Appeals for the Second Circuit ruled on December 5, 2006 that the certification by the District Court for the Southern District of New York of class actions against the underwriters in six "focus" cases was vacated and remanded for further proceedings. In so doing, the Second Circuit ruled that "the cases pending on this appeal may not be certified as class actions." On April 6, 2007, the Second Circuit denied the plaintiffs' petition for rehearing, and no further appeals have been taken.

As a result of the Second Circuit's ruling, the plaintiffs and the issuers stipulated on June 22, 2007 that the Stipulation and Agreement of Settlement with Defendant Issuers and Individuals, which was originally submitted to the Court on June 10, 2004, was terminated, which resolved the motion for final approval of the class action settlement with the issuers and individual defendants. The Court entered the parties' stipulation as an Order on June 25, 2007. As a result of these developments, the plaintiffs have filed amended complaints against the underwriters and "focus case" issuers and individuals and are attempting to certify a class action.

In response to the amended complaints, the underwriters and "focus case" issuers moved to dismiss the amended complaints. On March 26, 2008, the motion to dismiss was granted in part and denied in part. As a result, the Court will proceed with the plaintiffs' amended complaints against the underwriters and "focus case" issuers to determine whether class actions can be certified.

We are a defendant in litigation pending in the United States District Court for the Southern District of New York entitled Enzo Biochem, Inc. et al. (Enzo) v. Amersham PLC, et al. (Amersham), filed in October 2002. By their complaint, plaintiffs allege that certain defendants (i) breached their distributorship agreements by selling certain products for commercial development (which they allege was not authorized), (ii) infringed plaintiffs' patents through the sale and use of certain products, and (iii) are liable for unfair competition and tortious interference with contractual relations. We did not have a contractual relationship with plaintiffs, but we are alleged to have purchased the product at issue from one of the other defendants. We have sold the business unit that was allegedly engaged in the unlawful conduct. As a result, there is no relevant injunctive relief to be sought from us. The complaint seeks damages in an undisclosed amount. Most of the fact discovery in the case has been taken, and a Markman hearing to construe the patent claims was conducted in early July 2005. On July 17, 2006, the Court ruled in our favor on its construction of the patents asserted against us, and the co-defendants, including us, moved for summary judgment on all claims against us in January 2007. A hearing on the defendants' motions for summary judgment occurred on July 17-18, 2007, and the Court reserved ruling on the motions, taking them under advisement. Such matter has been delayed due to the death of the judge and the assignment of a new judge.

In other litigation brought by Enzo against another defendant under the same patents asserted against us, a Connecticut Federal Court has invalidated the patents asserted there and asserted against us in the New York case. That decision is on appeal. As a result of these developments, the defendants in the Enzo v. Amersham case requested a conference before the Court in order to determine how to proceed. Such conference was held on March 4, 2008 and the Court has not yet ruled on such determination.

On June 5, 2008, we and Beckman Coulter, Inc. filed suit against Sequenom, Inc. (Sequenom) in the United States District Court for the Southern District of California alleging infringement of U.S. patent numbers 5,888,819, 6,004,744 and 6,537,748. This lawsuit seeks damages and injunctive relief. Sequenom filed an answer and counterclaims on August 15, 2008. A reply to the counterclaims was filed on August 29, 2008. On June 22, 2009, the parties filed a stipulation of dismissal which dismissed the lawsuit with prejudice.

On February 12, 2010, a complaint was filed in the United States District Court for the Western District of Wisconsin by Genetic Technologies Limited naming us as a defendant, along with eight other companies. The complaint, entitled Genetic Technologies Limited v. Beckman Coulter, Inc., et al., alleges that the defendants infringed U.S. Patent No. 5,612,179 through the sale and use of certain products and services. There is no request for injunctive relief by the plaintiff. We have not been served with the complaint as of yet. We believe the allegations are without merit and intend to vigorously defend ourselves against such claims.

Additionally, we have certain other claims against us arising from the normal course of our business. The ultimate resolution of such matters, including those cases disclosed above, in the opinion of management, will not have a material effect on our financial position and liquidity, but could have a material impact on our results of operations for any reporting period.

Item 4. [RESERVED.]

PART II

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

Market Information

Our common stock is traded on the NASDAQ Global Market under the symbol "ORCH." The following table sets forth, for the periods indicated, the high and low sales prices for our common stock as reported by NASDAQ:

	Common Stock	
	High	Low
2009:		
First Quarter	$ .75	$ .46
Second Quarter	1.73	.58
Third Quarter	2.20	1.40
Fourth Quarter	1.88	1.41
2008:		
First Quarter	$5.72	$2.54
Second Quarter	3.46	2.10
Third Quarter	3.65	2.13
Fourth Quarter	2.88	0.54

On March 11, 2010, the closing sale price of our common stock was $1.76.

Stockholders

As of March 11, 2010, there were 358 stockholders of record.

Dividends

We have not paid dividends to our common stockholders since our inception and do not plan to pay cash dividends in the foreseeable future, as we currently intend to retain earnings, if any, to finance our growth.

Item 6. SELECTED FINANCIAL DATA

	Year ended December 31				
	2009	2008	2007	2006	2005
	(In thousands, except per share data)				
Consolidated statements of operations data:					
Total revenues	$ 59,062	$ 57,595	$ 60,303	$ 56,854	$ 61,609
Operating expenses:					
Cost of service revenues	38,549	40,287	40,230	39,705	37,496
Research and development	834	846	1,045	1,228	1,616
Marketing and sales	4,905	5,860	6,021	6,766	8,744
General and administrative	14,497	16,076	15,385	18,980	20,383
Impairment of assets	—	—	—	—	255
Restructuring	161	—	(75)	437	2,514
Amortization of intangible assets	1,860	1,895	1,806	1,765	1,763
Total operating expenses	60,806	64,964	64,412	68,881	72,771
Operating loss	(1,744)	(7,369)	(4,109)	(12,027)	(11,162)
Total other income (expense), net	167	1,180	1,162	899	2,069
Loss before income taxes	(1,577)	(6,189)	(2,947)	(11,128)	(9,093)
Income tax benefit (expense)	35	1,708	(20)	(143)	(346)
Net loss	$ (1,542)	$ (4,481)	$ (2,967)	$(11,271)	$ (9,439)
Basic and diluted net loss per share allocable to common stockholders	$ (0.05)	$ (0.15)	$ (0.10)	$ (0.45)	$ (0.39)
Shares used in computing basic and diluted net loss per share allocable to common stockholders	29,935	29,935	29,583	24,892	24,284

	December 31				
	2009	2008	2007	2006	2005
Consolidated balance sheet data:					
Cash, cash equivalents and available-for- sale securities	$ 18,125	$ 14,998	$ 20,918	$ 24,144	$ 23,198
Working capital	25,161	21,466	25,455	29,973	22,835
Total assets	52,842	50,649	62,129	60,616	61,669
Long-term debt, less current portion	—	—	337	—	—
Total stockholders' equity	45,649	44,368	52,433	50,906	45,477

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

This Management's Discussion and Analysis of Financial Condition and Results of Operations as of December 31, 2009 and for the years ended December 31, 2009, 2008 and 2007 should be read in conjunction with our consolidated financial statements and related notes thereto and the selected financial data included elsewhere in this Annual Report on Form 10-K.

OVERVIEW

We are engaged in the provision of DNA testing services that generate genetic profile information by analyzing an organism's unique genetic identity. We focus our business on DNA testing primarily for human identity and, to a lesser extent, agricultural applications. In the human identity area, we principally provide DNA testing services for forensic, family relationship and, to a lesser extent, security applications. Forensic DNA testing is primarily used to confirm that a suspect committed a particular crime, to exonerate an innocent person or to establish or maintain databases of individuals convicted of crimes or, in some instances, arrested in connection with crimes. We are also engaged in the provision of non-DNA forensic laboratory services. Family relationship DNA testing is used to establish whether two or more people are genetically related. DNA testing is used by individuals and employers in security applications to establish or store a person's genetic profile for identification purposes in the event of an emergency or accident. In agricultural applications, we provide DNA testing services for selective trait breeding.

We have operations in the US and in the UK and the majority of our current customers are based in these two countries. Our forensic, family relationship and security DNA testing services are conducted in both the US and the UK, while all of our agricultural DNA testing services are conducted in the UK. Based on our review of publicly available information regarding contract sizes and competitor activity, supplemented by industry publications and third-party market assessment data, we believe that the US and UK are two of the largest existing markets for DNA testing services today. In the US and UK, a significant amount of our current testing activity is under established non-exclusive contracts with government agencies. These contracts are usually awarded through a sealed bid process and, when awarded, typically have a term from one to three years. We believe that our experience and reputation as a reliable provider of services to government agencies is a valued credential that can be used in securing both new contracts and renewing existing contracts.

Our operations in the US accounted for 50 %, 54% and 50% of our total revenues for the years ended December 31, 2009, 2008 and 2007, respectively. We continue to experience significant price competition in our forensics and paternity testing businesses. As a result, we are focused on improving our operational execution to increase throughput in our laboratories and lower aggregate operating costs. In particular, in our forensics business we have reduced our sample processing time and decreased the number of samples that need to be retested. In addition, we believe that our forensic and paternity laboratory testing volumes, combined with the business that we acquired as part of the acquisition of ReliaGene have increased our operational efficiencies. On October 20, 2009, we announced a planned consolidation of our East Lansing, Michigan paternity testing operations into our Dayton, Ohio facility. On January 14, 2010, we announced a planned consolidation of our Nashville, Tennessee forensic DNA testing facility into our Dallas, Texas facility. We believe these consolidations may lead to additional operational efficiencies, plant and equipment cost reductions and increased scalability.

Our operations in the UK accounted for 50 %, 46% and 50% of our total revenues for the years ended December 31, 2009, 2008 and 2007, respectively. Prior to 2009, a significant portion of our UK revenues were derived through our agreement with LGC Ltd., or LGC. LGC is a provider of analytical and diagnostic services and one of our competitors in providing DNA testing services in the UK. Our prior agreement with LGC was terminated effective July 15, 2007 and we then entered into a series of temporary extension agreements with LGC, which have terminated. Our focus is on providing our services directly to UK police forces. In 2006, we

were successful in winning forensic work directly with UK police forces and, in February 2008, we were awarded, overall, a significant portion of the service packages we bid on in the North West/South West and Wales regional tender. We were awarded work from nine of the fourteen police forces that participated in this tender. Under the terms of the award, we are providing forensic services, including DNA testing of database crime scene samples, forensic casework and database testing services under the UK's Police and Criminal Evidence Act, or PACE, for multiple police forces that collectively tendered their work. This award followed a rigorous and competitive bidding process. We believe that the actions we have taken to date have enabled us to successfully transition from our prior reliance on revenues derived from LGC to directly providing these services to police forces in the UK. In addition, we expect the remaining police forces in the UK to solicit initial tenders for forensic services through the UK's National Procurement Plan by the end of 2011.

Operating Highlights

Our revenues are predominately generated from DNA testing services provided to our customers. Our costs and expenses include costs of service revenues, research and development expenses, marketing and sales expenses, general and administrative expenses, amortization expense and other income and expense. Costs of service revenues consist primarily of salaries and related personnel costs, laboratory supplies, fees paid for the collection of samples, depreciation and facility expenses. Research and development expenses consist primarily of salaries and related costs, laboratory supplies and other expenses related to the design, development, testing and enhancement of our services. Marketing and sales expenses consist of salaries and benefits for marketing and sales personnel within our organization and all related costs of selling and marketing our services. General and administrative expenses consist primarily of salaries and related expenses for executive, finance and administrative personnel, professional fees, insurance and other corporate expenses.

Our operating results improved for the year ended December 31, 2009 as compared to 2008. Overall, for the year ended December 31, 2009 as compared to the year ended December 31, 2008, total revenues increased approximately 3% and gross margin, as percentage of service revenues, increased to approximately 34% from approximately 30%. For the year ended December 31, 2009, as compared to 2008, our UK revenues were unfavorably impacted approximately 15% as a result of the exchange rate movement of the British pound as compared to the US dollar. Excluding the adverse effect of exchange rate movements, in local currency terms we experienced an increase in revenue of 32%, primarily due to increases in forensics, paternity and immigration testing services, partially offset by continued decreases in agriculture revenues. In the US, we experienced increases in forensic casework, which was offset by decreases in testing services involving DNA profile uploads into CODIS and individual state databases, as well as decreases in revenues for paternity testing services The increase in gross margin, as a percentage of service revenue, was the result of added sample volumes for our forensics testing services in the UK and forensics casework testing services in the US, as well as reductions in personnel and supply expenses. For the year ended December 31, 2009, our operating expenses, other than cost of service revenues, decreased by approximately 10% as compared to the same period in 2008, as a result of decreased general and administrative and marketing and sales expenses, in particular decreased personnel costs and professional fees, as well as the impact of the exchange rate movement of the British pound as compared to the US dollar.

RESULTS OF OPERATIONS

Years ended December 31, 2009 and 2008

The following table sets forth a year-over-year comparison of the components of our net loss for the years ended December 31, 2009 and 2008:

	2009	2008	$ Change	% Change
		(In thousands)		
Total revenues	$59,062	$57,595	$ 1,467	3%
Cost of service revenues	38,549	40,287	(1,738)	(4)
Research and development	834	846	(12)	(1)
Marketing and sales	4,905	5,860	(955)	(16)
General and administrative	14,497	16,076	(1,579)	(10)
Restructuring expense	161	—	161	>100
Amortization of intangible assets	1,860	1,895	(35)	(2)
Total other income, net	167	1,180	(1,013)	(86)
Income tax benefit (expense)	35	1,708	(1,673)	(98)
Net loss	(1,542)	(4,481)	2,939	66

Revenues

Total revenues for the year ended December 31, 2009 of $59.1 million represented an increase of approximately $1.5 million, or approximately 3%, as compared to revenues of $57.6 million for 2008.

Our US service revenues for the year ended December 31, 2009 of $28.6 million decreased by approximately $2.4 million, or approximately 8%, as compared to $31.0 million for 2008, primarily due to a significant decrease in CODIS business and individual state database testing services from 2008, and lower average selling price per sample as a result of significant price competition, as well as decreased revenues from paternity testing services.

Revenues from our UK-based testing services increased by $3.2 million, or approximately 12%, to $29.5 million for the year ended December 31, 2009, as compared to $26.4 million for 2008. For the year ended December 31, 2009, as compared to 2008, our UK revenues were unfavorably impacted approximately 15% as a result of the exchange rate movement of the British pound as compared to the US dollar. Despite the adverse effect of exchange rate movements, our UK-based revenue increase was driven by an increase in forensics revenues, as work awarded under the North West/South West and Wales's regional tender and other work has replaced and surpassed revenues previously generated under our expired arrangement with LGC.

We previously performed forensic testing services for several police forces throughout the UK through our subcontractor agreement with LGC. Prior to 2009, a significant portion of our UK revenues were derived through our agreement with LGC. LGC is a provider of analytical and diagnostic services and one of our competitors in providing DNA testing services in the UK. Our agreement with LGC was terminated effective July 15, 2007 and we then entered into a series of temporary extension agreements with LGC, which have terminated. Our focus is on providing our services directly to UK police forces. In 2006, we were successful in winning forensic work directly with UK police forces and, in February 2008, we were awarded, overall, a significant portion of the service packages we bid on in the North West/South West and Wales regional tender. We were awarded work from nine of the fourteen police forces that participated in this tender. Under the terms of the award, we are providing forensic services, including DNA testing of database crime scene samples, forensic casework and PACE samples for multiple police forces that collectively tendered their work. This award followed a rigorous and competitive bidding process. In addition, we expect the remaining police forces in the UK to solicit initial tenders for forensic services through the UK's National Procurement Plan by the end of 2011.

During the years ended December 31, 2009 and 2008, we recognized $985 thousand and $230 thousand, respectively, in other revenues, specifically license revenues attributable to a patent license agreement.

Cost of Service Revenues

Cost of service revenues was $38.5 million, or approximately 66% of service revenues, for the year ended December 31, 2009, compared to $40.3 million, or approximately 70% of service revenues, for the year ended December 31, 2008. For year ended December 31, 2009, as compared to the comparable period in 2008, our UK cost of service revenues were favorably impacted by approximately 15% as a result of the exchange rate movement of the British pound as compared to the US dollar. In the US, cost of service revenues for year ended December 31, 2009, as compared to the comparable period in 2008, decreased due to lower personnel costs and to lower lab supply costs as a result of process improvements. Our gross margin percentage increased by approximately four percentage points from 30% for year ended December 31, 2008 to 34% for the year ended December 31, 2009. This increase is a result of added sample volumes for our forensics testing services in the UK, productivity enhancements in the US and the UK, as well as reductions in personnel and supply expenses in the US. On October 20, 2009, we announced a planned consolidation of our East Lansing, Michigan paternity testing operations into our Dayton, Ohio facility. On January 14, 2010, we announced a planned consolidation of our Nashville, Tennessee forensic DNA testing facility into our Dallas, Texas facility. We believe these consolidations may lead to additional operational efficiencies, plant and equipment cost reductions and increased scalability.

Research and Development

Research and development expenses for the year ended December 31, 2009 were $834 thousand, a decrease of $12 thousand, as compared to $846 thousand during 2008. The decrease in research and development expenses was primarily due to the impact of the exchange rate movement of the British pound as compared to the US dollar.

Marketing and Sales

Marketing and sales expenses for the year ended December 31, 2009 were $4.9 million, a decrease of $955 thousand as compared to $5.9 million during the prior year. The decrease in marketing and sales expenses was primarily due to decreased personnel, travel and postage costs and the impact of the exchange rate movement of the British pound as compared to the US dollar.

General and Administrative

General and administrative expenses for the year ended December 31, 2009 were $14.5 million, a decrease of $ 1.6 million as compared to $16.1 million during 2008. The decrease in general and administrative expenses is primarily due to decreased professional fees, including non-recurring legal fees related to a sizable state paternity contract that was awarded to the Company and protested by a competitor in 2008 and the impact of the exchange rate movement of the British pound as compared to the US dollar.

Restructuring

During the year ended December 31, 2009, we recognized $161 thousand in restructuring expenses related to the consolidation of our East Lansing, Michigan paternity testing operations into our Dayton, Ohio facility. We announced this planned consolidation on October 20, 2009 and expect to complete this consolidation and close the East Lansing facility by July 1, 2010. The expenses in 2009 relate primarily to employee severance costs and facility closure costs.

We currently expect to incur restructuring charges and cash expenditures in connection with this consolidation of $775 thousand to $1.0 million in the aggregate, which includes: severance and retention bonuses for employees in the range of $450 thousand to $550 thousand; relocation costs for employees relocating from the East Lansing facility in the range of $50 thousand to $75 thousand; recruiting and training costs for the Dayton facility in connection with the transfer of work from the East Lansing facility of approximately $50 thousand; lease termination costs in the range of $150 thousand to $200; thousand and equipment relocation and reinstallation costs in the range of $75 thousand to $125 thousand. A substantial portion of these charges and expenditures are expected to be reported in first and second quarters of 2010. We currently expect to offset these restructuring charges and expenditures through annual cost savings of approximately $1.0 million from operational efficiencies, plant and equipment cost reductions and increased scalability.

A summary of the restructuring activity in 2009 is as follows (in thousands):

	Workforce Reduction	Facility Costs	Total
Restructuring charges recorded in 2009	$142	$—	$142
Cash payments in 2009			
Restructuring liability as of December 31, 2009	$142	$—	$142

On January 14, 2010 we announced the consolidation of our Nashville, Tennessee forensic DNA testing facility into our Dallas, Texas facility. We expect to complete this consolidation by August 31, 2010. We currently expect to incur restructuring charges and cash expenditures in connection with this action of $1.0 million to $1.3 million in the aggregate, which includes: severance and retention bonuses for employees in the range of $540 thousand to $680 thousand; relocation costs for employees relocating from the Nashville facility in the range of $85 thousand to $110 thousand; recruiting and training costs in our Dallas facility in connection with the transfer of work from the Nashville facility of approximately $50 thousand; lease termination costs in the range of $50 thousand to $100 thousand and equipment relocation and reinstallation costs in the range of $300 thousand to $360 thousand. A substantial portion of these charges are expected to be reported in the second, third and fourth quarters of 2010. We currently expect to offset these restructuring charges and expenditures through annual cost savings of approximately $1.4 million from operational efficiencies, plant and equipment cost reductions and increased scalability.

Amortization of Intangible Assets

During each of the years ended December 31, 2009 and 2008, we recorded $1.9 million of amortization expense.

Total Other Income, Net

Interest income for the year ended December 31, 2009 was $107 thousand, compared to $369 thousand during the prior year. The decrease in interest income was due to lower interest rates.

Interest expense for the years ended December 31, 2009 and 2008 was $2 thousand and $38 thousand, respectively. This interest expense was related to debt assumed as result of the acquisition of ReliaGene in the fourth quarter of 2007.

Other income for the year ended December 31, 2009 was $62 thousand, primarily consisting of finance charges received on outstanding receivables. Other income for the year ended December 31, 2008 was $849 thousand, primarily consisting of net non-cash gains from changes in the fair value of certain liabilities.

Income Tax Expense

During the years ended December 31, 2009 and 2008, we recorded an income tax benefit of $35 thousand and $1.7 million, respectively.

During 2009, we recognized a current foreign tax expense of $168 thousand. Included in this expense is a current benefit of $192 thousand relating to certain allowances and deductions taken on our tax returns.

For the year ended December 31, 2008, we recognized a current foreign tax benefit of $193 thousand, including a tax benefit of $175 thousand due to a write down in our unrecognized income tax benefits, and a deferred foreign tax benefit of $47 thousand, primarily for our business in the UK; as well as a tax benefit of $1.5 million associated with the sale of some of our state NOL carryforwards. No tax benefit was recorded relating to our US business' losses as management deemed that it was not likely than such tax benefit would be realized.

Net Loss

For the year ended December 31, 2009, we reported a net loss of $1.5 million, which represented a decrease of 66% as compared to a net loss of $4.5 million for the year ended December 31, 2008.

RESULTS OF OPERATIONS

Years ended December 31, 2008 and 2007

The following table sets forth a year-over-year comparison of the components of our net loss for the years ended December 31, 2008 and 2007:

	2008	2007	$ Change	% Change
		(In thousands)		
Total revenues	$57,595	$60,303	$(2,708)	(4)%
Cost of service revenues	40,287	40,230	57	0
Research and development	846	1,045	(199)	(19)
Marketing and sales	5,860	6,021	(161)	(3)
General and administrative	16,076	15,385	691	4
Restructuring expense (benefit)	—	(75)	75	(100)
Amortization of intangible assets	1,895	1,806	89	5
Total other income, net	1,180	1,162	18	2
Income tax benefit (expense)	1,708	(20)	1,728	>(100)
Net loss	(4,481)	(2,967)	(1,514)	51

Revenues

Total revenues for the year ended December 31, 2008 of $57.6 million represented a decrease of approximately $2.7 million, or approximately 4%, as compared to revenues of $60.3 million for 2007.

Our US service revenues for the year ended December 31, 2008 of $31.0 million increased by $929 thousand, or approximately 3%, as compared to $30.1 million for 2007, primarily due to the impact of the acquisition of ReliaGene and increased volume in our government paternity testing services. The increases in government paternity revenues were partly offset by declines in revenues from our forensic casework testing and CODIS services due to lower average selling price per sample as a result of significant price competition and from our private paternity testing services due to lower volume.

Revenues from our UK-based testing services decreased by $3.6 million, or approximately 12%, to $26.4 million for the year ended December 31, 2008, as compared to $30.0 million for 2007. For the year ended

December 31, 2008, as compared to 2007, our UK revenues were unfavorably impacted approximately 8% as a result of the exchange rate movement of the British pound as compared to the US dollar. Excluding the adverse effect of exchange rate movements, our UK-based revenues declined due to decreased volume in agricultural and immigration testing services. These decreases were partially offset by increased forensics revenues in local currency terms, as work awarded under the North West/South West and Wales regional tender and pilot work has replaced revenues previously generated under our expired LGC agreement.

We previously performed forensic testing services for several police forces throughout the UK through our subcontractor agreement with LGC. Revenues derived through the LGC agreement accounted for approximately 6% and 21% of our total revenues and approximately 12% and 42% of our UK revenues for the years ended December 31, 2008 and 2007, respectively. Our agreement with LGC was terminated effective July 15, 2007 and we then entered into a series of temporary extension agreements with LGC. LGC is now providing DNA testing services directly to several police forces in the UK that were previously serviced by us on a subcontract basis. We continue to provide some DNA testing services to police forces through LGC on a limited basis. We also continue to focus on providing our services directly to UK police forces. In 2006, we were successful in winning forensic work with different UK police forces and, in February 2008, we were awarded, overall, a significant portion of the service packages we bid on in the North West/South West and Wales regional tender. We were awarded work from nine of the fourteen police forces that participated in this tender. Under the terms of the award, we are providing forensic services, including DNA testing of database crime scene samples, forensic casework and PACE samples for multiple police forces that collectively tendered their work. This award followed a rigorous and competitive bidding process. In addition, we expect the remaining police forces in the UK to tender their work through the UK's National Procurement Plan. We submitted our first tender under the National Procurement Plan in the first quarter of 2009, with tendering expected to continue through a 24-month period.

Under the terms of our agreement with the DEFRA, we conducted genotyping services offered to sheep farmers under the NSP, which was designed to help British farmers breed sheep with reduced genetic susceptibility to the disease. Our agreement with DEFRA expired in March 2009. DEFRA will continue to have a requirement for scrapie genotyping for monitoring purposes but at a much reduced volume and it is uncertain that we will be awarded the contract for such testing. Therefore we expect our future agricultural testing services revenues will not be significant to our operating results.

During the years ended December 31, 2008 and 2007, we recognized $230 thousand and $255 thousand, respectively, in other revenues, specifically license revenues.

Cost of Service Revenues

Cost of service revenues was $40.3 million, or approximately 70% of service revenues, for the year ended December 31, 2008, compared to $40.2 million, or approximately 67% of service revenues, for the year ended December 31, 2007. The increase in cost of service revenues primarily reflects increased laboratory personnel costs, partially offset by decreased depreciation expense. Our gross margin, as a percentage of service revenue, decreased from 33% for the year ended December 31, 2007 to 30% for year ended December 31, 2008. The decrease in gross margin percentage was the result of the adverse impact of lower margin forensics revenues replacing the DNA testing volumes related to the loss of former LGC business, the buildup of casework management capabilities in the UK to service the business we won under the North West/South West and Wales regional tender prior to performing services and generating revenues under the new contracts, and reduced sample volumes for our UK based forensic, agricultural and immigration testing services. A decrease in average selling price per sample in our US forensic casework and CODIS testing services also negatively impacted the gross margin. For the year ended December 31, 2008, as compared to 2007, our UK cost of service revenues decreased by approximately 8% as a result of the exchange rate movement of the British pound as compared to the US dollar.

Research and Development

Research and development expenses for the year ended December 31, 2008 were $846 thousand, a decrease of $199 thousand, as compared to $1.0 million during 2007. The decrease in research and development expenses was primarily due to reduced personnel and supplies costs.

Marketing and Sales

Marketing and sales expenses for the year ended December 31, 2008 were $5.9 million, a decrease of $161 thousand as compared to $6.0 million during the prior year. The decrease in marketing and sales expenses was primarily due to decreased personnel, travel and postage costs. The decrease was partially offset by increased web-related advertising costs.

General and Administrative

General and administrative expenses for the year ended December 31, 2008 were $16.1 million, an increase of $691 thousand, as compared to $15.4 million during 2007. The increase in general and administrative expenses is primarily due to increased professional fees, including non-recurring legal fees related to a sizable state paternity contract that was awarded to us and protested by a competitor. These increases in professional fees were partially offset by decreases in personnel costs, consulting, relocation and insurance expenses.

Restructuring

We recorded a restructuring benefit of $75 thousand for the year ended December 31, 2007 as a result of favorable settlement of an employee obligation that was accrued at December 31, 2006.

Amortization of Intangible Assets

During the years ended December 31, 2008 and 2007, we recorded $1.9 and $1.8 million of amortization expense, respectively. The increase in amortization expense is due to the acquisition of additional intangible assets as part of our acquisition of ReliaGene in the fourth quarter of 2007.

Total Other Income, Net

Interest income for the year ended December 31, 2008 was $369 thousand, compared to $1.0 million during the prior year. The decrease in interest income was due to lower interest rates and average cash balances in 2008.

Interest expense for the years ended December 31, 2008 and 2007 was $38 thousand and $11 thousand, respectively. This interest expense was related to debt assumed as result of the acquisition of ReliaGene in the fourth quarter of 2007.

Other income for the year ended December 31, 2008 was $849 thousand, primarily consisting of net non-cash gains from changes in the fair value of a lease guarantee and penalty payment accrual, partially offset by a royalty liability expense. Other income for the year ended December 31, 2007 was $138 thousand, primarily a result of a non-cash gain from a reduction in the fair value of a lease guarantee liability, partially offset by accruals of certain non-operating expenses.

Income Tax Expense

During the years ended December 31, 2008 and 2007, we recorded an income tax benefit of $1.7 million and an income tax expense of $20 thousand, respectively.

For the year ended December 31, 2008, we recognized a current foreign tax benefit of $193 thousand, including a tax benefit of $175 thousand due to a write down in our unrecognized income tax benefits, and a deferred foreign tax benefit of $47 thousand, primarily for our business in the UK; as well as a tax benefit of $1.5 million associated with the sale of some of our state NOL carryforwards. No tax benefit was recorded relating to our US business' losses as management deemed that it was not likely than such tax benefit would be realized.

For the year ended December 31, 2007, we recognized current foreign tax expense of $1.1 million and deferred foreign tax expense of $68 thousand, primarily for our profitable business in the UK. In addition, we recorded a tax benefit of $1.1 million associated with the sale of some of our state NOL carryforwards. No tax benefit was recorded relating to our US business' losses as management deemed that it was not likely than such tax benefit would be realized.

Net Loss

For the year ended December 31, 2008, we reported a net loss of $4.5 million, which represented an increase of 51% as compared to a net loss of $3.0 million for the year ended December 31, 2007.

LIQUIDITY AND CAPITAL RESOURCES

As of December 31, 2009, we had $18.1 million in cash, cash equivalents and available-for-sale securities as compared to $15.0 million as of December 31, 2008. Working capital increased to $25.2 million at December 31, 2009 from $21.5 million at December 31, 2008. This increase in working capital was primarily a result of the effect cash provided by operating activities for the year ended December 31, 2009. As of December 31, 2009, we had no short or long-term debt obligations.

Sources of Liquidity

Our primary sources of liquidity have been issuances of our securities and other capital raising activities.

The following table sets forth a year-over-year comparison of the components of our liquidity and capital resources for the years ended December 31, 2009 and 2008:

	(In thousands)		$	%
	2009	2008	Change	Change
Cash provided by (used in):				
Operating activities	$ 3,639	$ (2,331)	$ 5,970	>100%
Investing activities	(10,420)	(1,163)	370	32
Financing activities	(338)	(425)	87	20

Net cash provided by operations for the year ended December 31, 2009 was $3.6 million, compared with net cash used in operations of approximately $2.3 million for the prior year. The change in operating cash flows was mainly a result of a decreased net loss and an increase in our accounts receivable for the year ended December 31, 2009 as compared to 2008. Investing activities during the year ended December 31, 2009 of $10.4 million primarily consisted of $9.6 million for the purchase of available for sale securities, as well as $793 thousand in capital expenditures as compared to investing activities during the year ended December 31, 2008 of $1.2 million, primarily consisting of $1.9 million in capital expenditures, partially offset by the release of $958 thousand of restricted cash. Financing activities during the year ended December 31, 2009 and 2008 primarily consisted of repayments of debt obligations of $338 and $425 thousand, respectively.

ReliaGene Debt

As part of the acquisition of ReliaGene on October 31, 2007, we assumed $948 thousand in debt comprised of a line of credit and various notes payable with outstanding balances of $260 thousand and $688 thousand,

respectively. The line of credit was fully paid off during 2008 with a then outstanding balance of $170 thousand. The notes payable, which were secured by ReliaGene's equipment, had interest rates ranging from 4.50% to 8.50% and maturity dates ranging from June 30, 2009 through September 5, 2011. In April 2009, we fully paid off the ReliaGene notes payable, along with all accrued interest.

Expected Uses of Liquidity in 2010

Throughout 2010, we plan to continue making investments in our business. We expect the following to be significant uses of liquidity: cost of service revenues, salaries and related personnel costs, laboratory supplies, fees for the collection of samples, facility expenses, marketing expenses and general and administrative costs. Actual expenditures may vary substantially from our estimates. We also expect to make capital expenditures related to the expansion of our Dallas facility to build a new CODIS laboratory and the expansion of our UK facilities in Abingdon and Chorley. In addition, we may make additional investments in future acquisitions of businesses or technologies which would increase our capital expenditures.

We believe that our existing cash on hand will be sufficient to fund our operations at least through the next twelve months. We may need to raise additional capital to fund future growth opportunities or to operate our ongoing business activities if our future results of operations fall below our expectations. However, we may not be able to raise additional funds or raise funds on terms that are acceptable to us. If future financing is not available to us, or is not available on terms acceptable to us, we may not be able to fund our future needs. If we raise funds through equity or convertible securities, our stockholders may experience dilution and our stock price may decline.

We cannot assure you that our business or operations will not change in a manner that would consume available resources more rapidly than anticipated. We also cannot assure you that we will not require substantial additional funding before we can achieve profitable operations. We also may need additional capital if we seek to acquire other businesses or technologies.

Contractual Obligations and Commercial Commitments

We maintained multiple contractual commitments as of December 31, 2009 which will support our future business operations. Such commitments relate to noncancelable operating lease arrangements, debt obligations and a lease guarantee. We have identified and quantified the most significant of these commitments in the following table.

	Payments due by period				
	Total	Less Than 1 Year	1-3 Years	3-5 Years	More Than 5 Years
			(In thousands)		
Contractual obligations:					
Operating lease obligations (1)	$5,432	$1,801	$1,947	$781	$903
Total contractual obligations	$5,432	$1,801	$1,947	$781	$903

(1) Such amounts represent future minimum rental commitments for office space and equipment leased under noncancelable operating lease arrangements.

In connection with the sale of assets and liabilities of our Diagnostics business to Tepnel Life Sciences, PLC, or Tepnel, in 2004, we were required to sign an unconditional guarantee related to the lease for the Stamford, Connecticut based laboratory, which was assigned to Tepnel. The fair value of the guarantee amounted zero as of December 31, 2008. We valued the guarantee based on the existing terms and conditions of the lease, an estimated vacancy period of the space prior to subleasing the space, and the likelihood of Tepnel breaching its obligation under the assigned lease. The lease terminates in April of 2010. Minimum remaining rents under the

assigned lease totaled zero and $755 thousand as of December 31, 2009 and 2008, respectively. Based on Tepnel's continuing performance under the sublease and a review of risks associated with the guarantee, in 2008, we revised our estimate for the Tepnel lease guarantee. As a result, we recorded a benefit of $739 thousand for the year ended December 31, 2008, included in other income, net.

In December 2002, we executed an asset purchase agreement with an acquiring party, pursuant to which we sold such acquiring party certain assets related to our SNPs and SNPstream business. Included in the assets sold was a license agreement between us and a licensee, including the royalties due under such license. Since December 2002, the licensee continued to send royalty payments of approximately $80 thousand per year under the license to us. Such royalty payments are in the aggregate amount of $415 thousand, including $29 thousand received during the three months ended September 30, 2008 but not recorded as revenue. In the third quarter of 2008, the acquiring party demanded that we pay the royalties received under the license with the licensee and that we direct the licensee to send all future royalty payments and royalty reports to the acquiring party. We gave such directions to the licensee on October 16, 2008. On November 10, 2008 we paid the acquiring party $415 thousand in settlement of such claim.

Several of our operating leases contain clauses that could require us to restore the leased premises to their original condition. Based upon the nature of our leasehold improvements and historical experience in exiting leases with similar clauses, we believe there is a minimal probability of us incurring a material restoration expense and as such, we have not recorded an accrual for these obligations.

Off-Balance Sheet Arrangements

None.

Limitation on the Use of Our NOL Carryforwards

New Jersey NOL Program

We sold certain state net operating loss, or NOL, carryforwards in accordance with the State of New Jersey's Corporation Business Tax Benefit Certificate Transfer program, or the Program, and generated cash benefits of $1.5 million, $1.1 million and $749 thousand for 2008, 2007 and 2006, respectively. The Program allowed certain high technology and biotechnology companies to sell unused NOL carryforwards to other New Jersey-based corporation business taxpayers. The carryforward period for our pre-qualified losses under this program expired January 1, 2009.

As of December 31, 2009, we have $250.0 million and $66.2 million of federal and state NOL carryforwards, respectively, available to offset future taxable income. Some of the federal and state NOL carryforwards that we have generated or acquired have begun to expire. Utilization of our NOL carryforwards to offset future taxable income, if any, may be substantially limited due to the "change of ownership" provisions in the Tax Reform Act of 1986, or the Act. The Act provides for a limitation on the annual use of NOL carryforwards and research and development credits following certain ownership changes, as defined by the Act, which could significantly limit our ability to utilize or sell these carryforwards and research and development credits. We have determined that an ownership change, as defined by the Act, occurred in 1999 and as a result $41.4 million of our NOL carryforwards are limited. We may have experienced other ownership changes as a result of past financings and may experience others in connection with future financings. Accordingly, our ability to utilize the aforementioned federal NOL carryforwards may be further limited.

At December 31, 2009, we had New Jersey research and development and federal foreign tax credit carryforwards of $3.8 million, which will begin expiring in 2022 and 2017, respectively. As a result of our acquisitions of GeneScreen, Inc. and Lifecodes Corporation, we acquired federal NOL carryforwards of $4.5 million and $2.0 million, respectively, of which $1.5 million has expired. We also may receive tax benefits in the future relating to stock option deductions that will not be reflected in the results of operations.

Critical Accounting Policies

Our critical accounting policies are as follows:

- revenue recognition
- stock-based compensation
- valuation of goodwill and other long-lived assets
- income taxes

Revenue Recognition

We recognize DNA laboratory services revenues at the time test results are completed and reported, persuasive evidence of an arrangement exists, the price to the buyer is fixed or determinable and collectibility is reasonably assured. Deferred revenues represent the unearned portion of payments received in advance of tests being completed and reported. Unbilled receivables represent revenue which has been earned on completed and reported tests, but has not been billed to the customer. Revenues from license arrangements, including license fees creditable against future royalty obligations of the licensee, as well as patent license agreements, are recognized when an arrangement is entered into if we have no significant continuing involvement under the terms of the arrangement. If we have significant continuing involvement under such an arrangement, license fees are deferred and recognized over the estimated performance period. Management has made estimates and assumptions relating to the performance period, which are subject to change. Changes in these estimates and assumptions could affect the amount of revenues from licenses reported in any given period.

Stock-Based Compensation

Effective January 1, 2006, we adopted the provisions of, and account for stock-based compensation in accordance with, Statement of Financial Accounting Standards, or FAS, No. 123(R), *Share-Based Payment*, or FAS 123(R). Under the fair value recognition provisions of this statement, stock-based compensation cost is measured at the grant date based on the fair value of the award and is recognized as expense over the requisite service period, which is the vesting period. We have applied the modified prospective method of adoption, under which prior periods are not restated for comparative purposes. Under the modified prospective method, FAS 123(R) applies to new awards and to awards that were outstanding as of December 31, 2005 that are subsequently modified, repurchased or cancelled. Compensation expense recognized during the year ended December 31, 2006 includes expense for all share-based payments granted prior to, but not yet vested as of, December 31, 2005, based on the grant date fair value estimated in accordance with the provisions of FAS No. 123, *Accounting for Stock-Based Compensation*, and expense for all share-based payments granted subsequent to December 31, 2006, based on the grant-date fair value estimated in accordance with the provisions of FAS 123(R). Stock-based compensation is classified within cost of service revenues, research and development, marketing and sales and general and administrative on the consolidated statement of operations.

Stock options granted to employees, which are granted with an exercise price equal to or greater than the fair market value of our common stock at the date of grant, in general vest in four years in equal monthly installments and have a maximum term of ten years. Stock options granted to our Board of Directors in general vest in three years in equal monthly installments and have a maximum term of ten years.

We use the Black-Scholes option pricing model to estimate the fair value of options granted, which requires the input of highly subjective assumptions. These assumptions include estimating the length of time employees will retain their vested stock options before exercising them, the estimated volatility of our common stock price over the expected term, the number of options that will ultimately not vest and the expected dividend yield. Changes in the subjective assumptions can materially affect the estimate of the fair value of stock-based compensation and, consequently, the related amount recognized in the consolidated statements of operations. The

expected volatility assumption is based on the daily historical volatility of our stock price, over the expected term of the option. Our stock options are considered "plain vanilla" options based on the guidance in SEC Staff Accounting Bulletin, or SAB, No. 107, *Share-Based Payment*, or SAB 107, as amended by SAB No. 110, *Share-Based Payment*, or SAB 110, and as such we have elected to use the "simplified" method, whereby we have assumed that all options will be exercised midway between the vesting date and the contractual term of the option to determine the expected term of the option. We will continue to use the simplified method until we have the historical data necessary to provide a reasonable estimate of expected life in accordance with SAB 107, as amended by SAB 110. We have not paid dividends since our inception, nor do we expect to pay any dividends for the foreseeable future, thus the expected dividend yield assumption is zero. As stock-based compensation expense recognized in the consolidated statement of operations is based on awards ultimately expected to vest, the amount of expense has been reduced for estimated forfeitures. FAS 123(R) requires forfeitures to be estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates. Forfeitures are estimated based on historical experience.

Valuation of Goodwill and Other Long-lived Assets

Goodwill and other intangible assets acquired in a business combination that are determined to have an indefinite useful life are not amortized, but instead tested for impairment at least annually in the fourth quarter or between annual tests in the presence of impairment indicators such as:

- significant underperformance relative to expected historical or projected future operating results;
- significant changes in the manner of our use of the acquired assets or the strategy for our overall business;
- significant negative industry or economic trends;
- a significant adverse change in legal factors or in the business climate;
- a more-likely-than-not expectation of sale or disposal of a reporting unit or a significant portion thereof;
- significant decrease in the market value of our common stock; and
- a significant decrease in the market value of the assets.

Judgment is required in determining the existence of these factors and its effect on any impairment determination.

The fair value of our reporting units is determined considering the income, the market or the transaction valuation approaches or a combination thereof. Under the income approach, the fair value of the reporting unit is based on the present value of the reporting unit's expected estimated future cash flows. Under the market approach, the value of the reporting unit is based on an analysis of publicly traded companies in similar lines of business. Under the transaction approach, the value of the reporting unit is based on market transactions of similar businesses.

The process of evaluating the potential impairment of goodwill is subjective and requires significant judgment at many points during the analysis. In estimating the fair value of our reporting units for the purposes of our annual or interim analyses, we make estimates and judgments about the future cash flows, operating trends, discount rates, and other variables of these businesses. Although our cash flow forecasts are based on assumptions that are consistent with the plans and estimates we use to manage the underlying businesses, there is significant judgment in determining the cash flows attributable to these businesses. We also consider our market capitalization on the date we perform the analysis.

Our other long-lived assets consist primarily of fixed assets and amortizable intangible assets. We review other long-lived assets for impairment whenever events or changes in circumstances indicate that we will not be able to recover the asset's carrying amount. Such events or circumstances include, but are not limited to, a significant decrease in the fair value of the underlying business or asset, a significant decrease in the benefits realized from the acquired business, or a significant change in the operations of the acquired business or use of an asset.

Recoverability of other long-lived assets is measured by comparison of the carrying amount of the asset (asset group) to estimated undiscounted cash flows of the asset group. If the carrying amount of an asset group exceeds its estimated future cash flows, an impairment charge is recognized by the amount by which the carrying amount of the asset exceeds its fair value.

We performed an annual assessment of goodwill as of December 31, 2009 and concluded that goodwill was not impaired. We performed an impairment assessment of our long-lived assets as of December 31, 2009 and concluded that our long-lived assets were not impaired.

Income Taxes

We have generated NOL carryforwards for tax purposes since inception. As of December 31, 2009, these NOL carryforwards have resulted in NOL carryforwards of $250.0 million and $66.2 million for federal and state income tax purposes, respectively. In addition, certain charges recorded in the current and prior years were not currently deductible for income tax purposes. These differences result in gross deferred tax assets. We must assess the likelihood that the gross deferred tax assets, net of any deferred tax liabilities, will be recovered from future taxable income. To the extent we believe the recovery is not likely, we have established a valuation allowance.

Significant management judgment is required in determining this valuation allowance. We have recorded a valuation allowance of $94.8 million as of December 31, 2009, due to uncertainties related to our ability to utilize some of our net deferred tax assets, primarily consisting of NOL carryforwards, before they expire. The valuation allowance is based on our estimates of taxable income and the period over which the net deferred tax assets will be recoverable.

Conversely, if we are profitable in the future at levels which cause management to conclude that it is more likely than not that we will realize all or a portion of the net deferred tax assets for which a valuation has been recorded, we would record the estimated net realizable value of the net deferred tax asset at that time and would then record income taxes on our US operations at a rate equal to our combined federal and state effective rate of approximately 37%.

We adopted the provisions of FASB Interpretation No. 48, Accounting for Uncertainty in Income Taxes (FIN 48), on January 1, 2007. As a result of the implementation of FIN 48, we recognized no material adjustment in the liability for unrecognized income tax benefits. As of January 1, 2007 and December 31, 2007, the unrecognized tax benefits amounted to approximately $175 thousand, including an immaterial amount for accrued interest and penalties related to uncertain tax positions, all of which would our effective tax rate if recognized. During the year ended December 31, 2009 we increased our reserve for unrecognized tax benefits by $225 thousand relating to certain allowances and deductions taken on our tax returns. During the year ended December 31, 2008, as a result of expired statutes of limitations, we recognized a previously unrecognized income tax benefit of $175 thousand. We recognized interest and penalties related to uncertain tax positions in income tax expense. The tax years 2007 and 2008 remain open to examination by the UK taxing authorities and the tax years 2006 to 2008 remain open to examination by the US taxing authorities. In addition, the US taxing authorities may examine the tax years from the Company's inception in 1995 through 2005, but generally are barred from adjusting the tax liabilities in excess of the net operating losses generated in any of those tax years. The amount of unrecognized tax benefits that, if recognized, would affect the effective tax rate is $225 thousand.

Recently Issued Accounting Pronouncements

In June 2009, the Financial Accounting Standards Board (FASB) issued FAS No. 168, The FASB Accounting Standards Codification TM and the Hierarchy of Generally Accepted Accounting Principles — a replacement of FASB Statement No. 162 or FAS 168 (FASB ASC 105-10). FAS 168 replaces all previously issued accounting standards and establishes the FASB Accounting Standards Codification TM (FASB ASC) as the source of authoritative accounting principles recognized by the FASB to be applied by nongovernmental entities in the preparation of financial statements in conformity with GAAP. FAS 168 is effective for all interim and annual periods ending after September 15, 2009. The FASB ASC is not intended to change existing GAAP. The adoption of this pronouncement will only result in changes to our financial statement disclosure and periodic reporting references. As such, the adoption of this pronouncement has no effect on our consolidated financial position, results of operations, or cash flows.

In order to facilitate the transition to the FASB ASC, we have elected to show all references to GAAP within this Annual Report on Form 10-K as usual along with a parenthetical FASB ASC reference.

Effective January 1, 2009, we adopted all the provisions of FAS No. 157, *Fair Value Measurements* (FAS 157) (FASB ASC 820-10). FAS 157 defines fair value, establishes a framework for measuring fair value and expands disclosures about fair value measurements. FAS 157 is applicable whenever another accounting pronouncement requires or permits assets and liabilities to be measured at fair value. FAS 157 does not expand or require any new fair value measures, however, the application of this statement may change current practice. The implementation of this standard did not have a material impact on our consolidated financial statements.

Effective January 1, 2009, we adopted FAS No. 141 (revised 2007), *Business Combinations* (FAS 141(R)), which replaces FAS No. 141, *Business Combinations* (FASB ASC 805-20). FAS 141(R) establishes principles and requirements for how an acquirer recognizes and measures in its financial statements the identifiable assets acquired, the liabilities assumed, any non-controlling interest in the acquiree and the goodwill acquired. This statement also establishes disclosure requirements which will enable users to evaluate the nature and financial effects of the business combination. FAS 141(R) applies prospectively to a company's business combinations for which the acquisition date is on or after January 1, 2009. The implementation of this standard did not have a material impact on our consolidated financial statements, however it may have an impact on future business combinations.

Effective January 1, 2009, we adopted FASB Staff Position (FSP) No. 142-3, *Determination of the Useful Life of Intangible Assets* (FSP 142-3) (FASB ASC 350-30). FSP 142-3 amends the factors that should be considered in developing assumptions about renewal or extension used in estimating the useful life of a recognized intangible asset under FAS 142 *Goodwill and Intangible Assets* (FASB ASC 350-10). FSP 142-3 is intended to improve the consistency between the useful life of a recognized intangible asset under FAS 142 and the period of expected cash flows used to measure the fair value of the asset under FAS 141(R) and other GAAP. The measurement provisions of this standard apply only to intangible assets of the Company acquired on or after January 1, 2009. The implementation of this standard did not have a material impact on our consolidated financial statements.

Effective January 1, 2009 we adopted EITF Issue No. 07-5, *Determining Whether an Instrument (or Embedded Feature) Is Indexed to an Entity's Own Stock* (EITF 07-5) (FASB ASC 815-40). EITF 07-5 provides that an entity should use a two step approach to evaluate whether an equity-linked financial instrument (or embedded feature) is indexed to its own stock, including evaluating the instrument's contingent exercise and settlement provisions. It also clarifies the impact of foreign currency denominated strike prices and market-based employee stock option valuation instruments on the evaluation. The implementation of this standard did not have a material impact on our consolidated financial statements.

Effective January 1, 2009, we adopted EITF Issue No. 08-5, *Issuer's Accounting for Liabilities Measured at Fair Value With a Third-Party Credit Enhancement* (EITF 08-5) (FASB ASC 820-10). EITF 08-5 provides guidance for measuring liabilities issued with an attached third-party credit enhancement (such as a guarantee). It clarifies that the issuer of a liability with a third-party credit enhancement (such as a guarantee) should not include the effect of the credit enhancement in the fair value measurement of the liability. The implementation of this standard did not have a material impact on our consolidated financial statements.

In May 2009, the FASB issued FAS 165, *Subsequent Events* (FAS 165) (FASB ASC 855-10). FAS 165 sets forth the period after the balance sheet date during which management of a reporting entity should evaluate events or transactions that may have occurred for potential recognition or disclosure in the financial statements, the circumstances under which an entity should recognize events or transactions occurring after the balance sheet date in its financial statements and the disclosures that an entity should make about events or transactions that occurred after the balance sheet date. We adopted FAS 165 as of June 30, 2009, which was the required effective date. The implementation of this standard did not have a material impact on our consolidated financial statements. In accordance with FAS 165, we evaluated subsequent events through March 12, 2010 which is the date these consolidated financial statements were issued. All subsequent events requiring recognition as of December 31, 2009 have been incorporated into these consolidated financial statements herein.

FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K contains forward-looking statements. Such statements are based on management's current expectations and are subject to a number of factors and uncertainties that could cause actual results or outcomes to differ materially from those described in such forward-looking statements. These statements address or may address the following subjects:

- our expectation of the amount and timing of future revenues, expenses and other items affecting the results of our operations;
- our expectation that, with the increasing availability of non-human genomic data, improved characteristics in livestock or crops will be produced to protect humans against animal-borne diseases;
- our belief that scientists hope to understand and use DNA molecular level knowledge to transform traditional approaches to medicine, agriculture and other fields;
- our belief that our forensic and paternity laboratory testing volumes, combined with those of ReliaGene, have increased our operational efficiencies;
- our expectation to complete the consolidation of our Nashville, Tennessee forensic DNA testing facility into our Dallas, Texas facility by August 31, 2010;
- our belief that the consolidation of our Nashville, Tennessee forensic DNA testing facility into our Dallas, Texas facility may lead to additional operational efficiencies, plant and equipment cost reductions and increased scalability;
- our expectation to complete the consolidation of our East Lansing, Michigan paternity testing operations into our Dayton, Ohio facility by July 1, 2010;
- our belief that the consolidation of East Lansing, Michigan paternity testing operations into our Dayton, Ohio facility may lead to additional operational efficiencies, plant and equipment cost reductions and increased scalability;
- our expectation that we will incur restructuring charges and cash expenditures in connection with the consolidation of our East Lansing, Michigan paternity testing operations into our Dayton, Ohio facility of $775 thousand to $1.0 million in the aggregate, which includes: severance and retention bonuses for employees in the range of $450 thousand to $550 thousand; relocation costs for employees relocating from the East Lansing facility in the range of $50 thousand to $75 thousand; recruiting and training

costs for the Dayton facility in connection with the transfer of work from the East Lansing facility of approximately $50 thousand; lease termination costs in the range of $150 thousand to $200 thousand; and equipment relocation and reinstallation costs in the range of $75 thousand to $125 thousand;

- our expectation that a substantial portion of the restructuring charges and expenditures in connection with the consolidation of our East Lansing, Michigan paternity testing operations into our Dayton, Ohio facility will be reported in first and second quarters of 2010;
- our expectation that we will offset the restructuring charges and expenditures in connection with the consolidation of our East Lansing, Michigan paternity testing operations into our Dayton, Ohio facility through annual cost savings of approximately $1.0 million from operational efficiencies, plant and equipment cost reductions and increased scalability;
- our expectation that we will incur restructuring charges and cash expenditures in connection with the consolidation of our Nashville, Tennessee forensic DNA testing facility into our Dallas, Texas facility of $1.0 million to $1.3 million in the aggregate, which includes: severance and retention bonuses for employees in the range of $540 thousand to $680 thousand; relocation costs for employees relocating from the Nashville facility in the range of $85 thousand to $110 thousand; recruiting and training costs in our Dallas facility in connection with the transfer of work from the Nashville facility of approximately $50 thousand; lease termination costs in the range of $50 thousand to $100 thousand; and equipment relocation and reinstallation costs in the range of $300 thousand to $360 thousand;
- our expectation that a substantial portion of the restructuring charges and expenditures in connection with the consolidation of our Nashville, Tennessee forensic DNA testing facility into our Dallas, Texas facility will be reported in second, third and fourth quarters of 2010;
- our expectation that we will offset the restructuring charges and expenditures in connection with the consolidation of our Nashville, Tennessee forensic DNA testing facility into our Dallas, Texas facility through annual cost savings of approximately $1.4 million from operational efficiencies, plant and equipment cost reductions and increased scalability;
- our belief that the UK government and police forces will continue to support the use of DNA testing in forensic cases;
- our belief that DNA testing of non-violent or property crime evidence is a growth area for our forensics business;
- our belief that we maintain good relationships with our employees;
- our expectation that the competition for DNA testing services will intensify in the future;
- our belief that states are building up their backlogs of DNA samples and that such states will eventually move to administer the awards in order to bring down the backlog;
- our belief that excess CODIS capacity has been built-up in the private sector and this may affect pricing in the future;
- our belief that believe the consolidations of forensic and paternity facilities may lead to additional operational efficiencies, plant and equipment cost reductions and increased scalability;
- our belief that our experience and reputation as a reliable provider of services to government agencies is a valued credential that can be used in securing both new contracts and renewing existing contracts;
- our belief that the actions we have taken to date have placed us in a position to successfully transition from our prior reliance on revenues derived from LGC to directly providing DNA testing services to police forces in the UK;
- our expectation that the remaining police forces in the UK will solicit initial tenders for forensic services through the UK's National Procurement Plan by the end of 2011;

- our expectation that our future agricultural testing services revenues will not be significant to our operating results;
- our belief that we are one of the largest providers of forensic and family relationship testing in the US and that we are also a recognized leading provider of such services in the UK;
- our belief that the US and UK are some of the largest existing markets for DNA testing services today;
- our intention to develop and evaluate new technologies to enhance our laboratory processes, including instrumentation, automation and new testing methodologies;
- our expectation that our instrumentation, automation and new testing methodologies will enable us to reduce our costs for and improve the quality of our service offerings;
- our anticipation that the volume of CODIS testing will grow in the US and that the market for NDNAD work will be relatively stable based on legislation in the US and the UK;
- our anticipation that our current facilities should serve our near term capacity needs;
- our anticipation that federal and state governments in the US will allocate greater resources to support wider use of DNA testing;
- our expectation that our award under the North West/South West and Wales regional tender in the UK will result in significant revenues;
- our intention to seek and continue to seek patent protection for novel uses of SNPs in the genetic testing field;
- our intention to continue to concentrate on protection of our intellectual property as it relates to our DNA testing services;
- our expectation that we will continue to receive substantial discounts based upon reaching a specific threshold of purchases per year of reagents and other components from our current supplier;
- our anticipation that our existing cash on hand will be sufficient to fund our operations at least through the next twelve months;
- our anticipation that a portion of our future growth may be accomplished either by acquiring or merging with existing businesses;
- our plan to continue to market our services to governments, commercial companies and private individuals;
- our belief that litigation claims arising against us from the normal course of business will not have a material effect on our financial position and liquidity, but could have a material impact on our results of operations for any reporting period;
- our expectation to not pay any dividends in the foreseeable future;
- our intention to retain earnings, if any, to finance our growth;
- our plan to continue to make investments in our business;
- our expectation about our significant uses of liquidity;
- our expectation that the adoption of various recently issued accounting pronouncements will not have a material impact on our consolidated financial statements;
- our belief that the probability of us incurring a material restoration expense upon exiting our operating leases is minimal; and
- our expectation that our disclosure controls and procedures or our internal control over financial reporting will not prevent all error and all fraud.

While management makes its best efforts to be accurate in making forward-looking statements, such statements are subject to risks and uncertainties that could cause actual results to vary materially, including the risks and uncertainties discussed throughout this Annual Report on Form 10-K and the cautionary information set forth under the heading "Risk Factors" appearing in Item 1A of this Annual Report on Form 10-K. We disclaim any intention or obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

Item 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Interest Rate Sensitivity

Our exposure to market risk is principally confined to our cash equivalents, which are conservative in nature, with a focus on preservation of capital. Due to the short-term nature of our investments and our investment policies and procedures, we have determined that the risks associated with interest rate fluctuations related to these financial instruments are not material to our business. As of December 31, 2009, we had no short-term or long-term debt obligations.

Foreign Currency Risk

Our business derives a substantial portion of its revenues from international operations. We record the majority of our foreign operational transactions, including all cash inflows and outflows, in the local currency, British Pound. We record all of our US operational transactions, including cash inflows and outflows, in US dollars. We expect that international sales may continue to represent a significant portion of our revenue. The significant percentage of our revenue derived from our UK operations makes us vulnerable to future fluctuations in the exchange rate. For the year ended December 31, 2009, as compared to 2008, our UK revenues were unfavorably impacted approximately 15%, as a result of the exchange rate movement of the British pound as compared to the US dollar and future material adverse exchange rate movements would have an additional unfavorable translation impact on our consolidated financial results. We are prepared to hedge against any fluctuations in foreign currencies should such fluctuations have a material economic impact on us, although we have not engaged in hedging activities to date.

Item 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

ORCHID CELLMARK INC. AND SUBSIDIARIES

Index to Consolidated Financial Statements and Schedule

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Board of Directors and Shareholders
Orchid Cellmark Inc.

We have audited the accompanying consolidated balance sheets of Orchid Cellmark Inc. and Subsidiaries (the "Company") as of December 31, 2009 and 2008, and the related consolidated statements of operations, stockholders' equity and comprehensive loss, and cash flows for each of the three years in the period ended December 31, 2009. Our audits of the basic financial statements included the financial statement schedule listed in the index appearing under Item 15 (2). These financial statements and financial statement schedule are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements and financial statement schedule based on our audits.

We conducted our audits 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. The Company is not required to have, nor were we engaged to perform an audit of its internal control over financial reporting. Our audit included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Orchid Cellmark Inc. and Subsidiaries as of December 31, 2009 and 2008, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2009 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the related financial statement schedule, when considered in relation to the basic financial statements taken as a whole, presents fairly, in all material respects, the information set forth therein.

/s/ Grant Thornton LLP

New York, New York
March 12, 2010

ORCHID CELLMARK INC. AND SUBSIDIARIES

Consolidated Balance Sheets
December 31, 2009 and 2008
(In thousands, except share and per share data)

	2009	2008
Assets		
Current assets:		
Cash and cash equivalents	$ 8,600	$ 14,998
Available-for-sale securities	9,525	—
Accounts receivable, net of allowance of $397 and $533 as of December 31, 2009 and 2008, respectively	11,128	9,826
Inventory	1,542	1,262
Prepaids and other current assets	1,127	1,392
Total current assets	31,922	27,478
Fixed assets, net	4,803	5,859
Goodwill	9,423	9,336
Other intangibles, net	5,763	7,570
Other assets	931	406
Total assets	$ 52,842	$ 50,649
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	$ 2,762	$ 2,544
Accrued expenses and other current liabilities	3,071	2,288
Short-term debt and current portion of long-term debt	—	338
Deferred revenue	928	842
Total current liabilities	6,761	6,012
Long-term debt	—	—
Other liabilities	432	269
Total liabilities	7,193	6,281
Commitments and contingencies		
Stockholders' equity:		
Preferred stock; authorized 5,000,000 shares		
Series A redeemable convertible preferred stock; $0.001 per share par value; designated 5 shares; no shares issued or outstanding	—	—
Series A junior participating preferred stock; designated 1,000,000 shares; no shares issued or outstanding	—	—
Common stock; $0.001 par value; authorized 150,000,000 shares; issued 30,098,269 at December 31, 2009 and 2008, respectively	30	30
Additional paid-in capital	372,877	371,377
Accumulated other comprehensive income (loss)	343	(980)
Treasury stock at cost, 163,259 common shares at December 31, 2009 and 2008	(1,587)	(1,587)
Accumulated deficit	(326,014)	(324,472)
Total stockholders' equity	45,649	44,368
Total liabilities and stockholders' equity	$ 52,842	$ 50,649

See accompanying notes to consolidated financial statements.

ORCHID CELLMARK INC. AND SUBSIDIARIES

Consolidated Statements of Operations
Years ended December 31, 2009, 2008 and 2007
(In thousands, except per share data)

	2009	2008	2007
Revenues:			
Service revenues	$58,077	$57,365	$60,048
Other revenues	985	230	255
Total revenues	59,062	57,595	60,303
Operating expenses:			
Cost of service revenues	38,549	40,287	40,230
Research and development	834	846	1,045
Marketing and sales	4,905	5,860	6,021
General and administrative	14,497	16,076	15,385
Restructuring	161	—	(75)
Amortization of intangible assets	1,860	1,895	1,806
Total operating expenses	60,806	64,964	64,412
Operating loss	(1,744)	(7,369)	(4,109)
Other income (expense):			
Interest income	107	369	1,035
Interest expense	(2)	(38)	(11)
Other income	62	849	138
Total other income, net	167	1,180	1,162
Loss before income taxes	(1,577)	(6,189)	(2,947)
Income tax benefit (expense)	35	1,708	(20)
Net loss	$(1,542)	$(4,481)	$(2,967)
Basic and diluted net loss per share	$ (0.05)	$ (0.15)	$ (0.10)
Shares used in computing basic and diluted net loss per share	29,935	29,935	29,583

See accompanying notes to consolidated financial statements.

ORCHID CELLMARK INC. AND SUBSIDIARIES

Consolidated Statements of Stockholders' Equity and Comprehensive Loss
Years ended December 31, 2009, 2008 and 2007
(In thousands)

	Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Income (Loss)	Treasury Stock	Accumulated Deficit	Total Stockholders' Equity
	Number of Shares	Amount					
Balance at January 1, 2007	29,482	$ 29	$366,080	$ 3,408	$(1,587)	$(317,024)	$50,906
Net loss	—	—	—	—	—	(2,967)	(2,967)
Foreign currency translation adjustment	—	—	—	444	—	—	444
Comprehensive loss							(2,523)
Issuance of common stock for acquisition	560	1	2,912	—	—	—	2,913
Issuance costs of common stock in private placement	—	—	(77)	—	—	—	(77)
Issuance of common stock from exercise of stock options	14	—	24	—	—	—	24
Stock-based compensation expense	41	—	1,190	—	—	—	1,190
Balance at December 31, 2007	30,097	$ 30	$370,129	$ 3,852	$(1,587)	$(319,991)	$52,433
Net loss	—	—	—	—	—	(4,481)	(4,481)
Foreign currency translation adjustment	—	—	—	(4,832)	—	—	(4,832)
Comprehensive loss							(9,313)
Issuance of common stock from exercise of stock options	1	—	2	—	—	—	2
Stock-based compensation expense	—	—	1,246	—	—	—	1,246
Balance at December 31, 2008	30,098	$ 30	$371,377	$ (980)	$(1,587)	$(324,472)	$44,368
Net loss	—	—	—	—	—	(1,542)	(1,542)
Foreign currency translation adjustment	—	—	—	1,306	—	—	1,306
Unrealized gains (losses) on available-for-sale securities	—	—	—	17	—	—	17
Comprehensive loss							(219)
Stock-based compensation expense	—	—	1,500	—	—	—	1,500
Balance at December 31, 2009	30,098	$ 30	$372,877	$ 343	$(1,587)	$(326,014)	$45,649

See accompanying notes to consolidated financial statements.

ORCHID CELLMARK INC. AND SUBSIDIARIES

Consolidated Statements of Cash Flows
Years ended December 31, 2009, 2008 and 2007
(In thousands)

	2009	2008	2007
Cash flows from operating activities:			
Net loss	$ (1,542)	$ (4,481)	$ (2,967)
Adjustments to reconcile net loss to net cash provided by (used in) operating activities:			
Non-cash compensation expense	1,500	1,246	1,190
Depreciation and amortization	3,908	4,477	4,669
Bad debt expense	188	(36)	60
Loss on sale of assets	40	8	123
Changes in assets and liabilities, net of effect of acquisition:			
Accounts receivable	(1,198)	(1,905)	3,062
Inventory	(281)	(88)	(301)
Prepaids and other current assets	265	698	(292)
Other assets	(491)	11	61
Accounts payable	218	945	(744)
Accrued expenses and other current liabilities, including restructuring	575	(2,080)	(1,063)
Deferred revenue	86	(184)	19
Income taxes payable	208	(425)	(470)
Other liabilities	163	(517)	(327)
Net cash provided by (used in) operating activities	3,639	(2,331)	3,020
Cash flows from investing activities:			
Purchases of available-for-sale securities	(9,627)	—	—
Capital expenditures	(793)	(2,121)	(1,154)
Decrease in restricted cash	—	958	—
Proceeds from sale of assets	—	—	23
Acquisition of ReliaGene Technologies, Inc., net of cash acquired	—	—	(5,021)
Net cash used in investing activities	(10,420)	(1,163)	(6,152)
Cash flows from financing activities:			
Proceeds from issuance of common stock	—	2	24
Issuance costs of common stock in private placement	—	—	(77)
Repayment of debt	(338)	(427)	(183)
Payments of patent obligation liability	—	—	(149)
Net cash (used in) financing activities	(338)	(425)	(385)
Effect of foreign currency translation on cash and cash equivalents	704	(2,001)	291
Unrealized gain/(loss) on available-for-sale securities	17	—	—
Net increase (decrease) in cash and cash equivalents	(6,398)	(5,920)	(3,226)
Cash and cash equivalents at beginning of period	14,998	20,918	24,144
Cash and cash equivalents at end of period	$ 8,600	$14,998	$20,918
Supplemental disclosure of non-cash financing and investing activities:			
Stock issued for acquisition of ReliaGene Technologies, Inc.	$ —	$ —	$ 2,913
Supplemental disclosure of cash flow information:			
Cash paid during the year for interest	$ 2	$ 38	$ 11
Cash paid during the year for taxes	84	836	1,477

See accompanying notes to consolidated financial statements.

(1) Summary of Significant Accounting Policies

Organization and Business Activities

Orchid Cellmark Inc. and its subsidiaries (the Company) are engaged in the provision of DNA testing services that generate genetic profile information by analyzing an organism's unique genetic identity. The Company focuses its business on DNA testing primarily for human identity and, to a lesser extent, agricultural applications. In the human identity area, the Company provides DNA testing services for forensic, family relationship and, to a lesser extent, security applications. Forensic DNA testing is primarily used to confirm that a suspect committed a particular crime, to exonerate an innocent person or to establish or maintain databases of individuals convicted of crimes or, in some instances, arrested in connection with crimes. The Company is also engaged in the provision of non-DNA forensic laboratory services. Family relationship DNA testing is used to establish whether two or more people are genetically related. DNA testing is used by individuals and employers in security applications to establish or store a person's genetic profile for identification purposes in the event of an emergency or accident. In agricultural applications, the Company provides DNA testing services for selective trait breeding. The Company has operations in the United States (US), and in the United Kingdom (UK), and the majority of its current customers are based in these two countries. The Company's forensic, family relationship and security DNA testing services are conducted in both the US and the UK, while all of its agricultural DNA testing services are conducted in the UK. The Company was organized under the laws of the state of Delaware on March 8, 1995.

Consolidated Financial Statements

The accompanying consolidated financial statements include the results of operations of the Company and its wholly owned subsidiaries. All intercompany accounts and transactions have been eliminated in consolidation.

Cash and Cash Equivalents

The Company considers all highly liquid investments with a maturity of three months or less when purchased to be cash equivalents.

Available-for-sale securities

The Company accounts for fair value measurements of its available-for-sale securities under the provisions of Statement of Financial Accounting Standards (FAS) No. 157, "*Fair Value Measurements*" and FSP FAS 157-4, "Determining Fair Value When the Volume and Level of Activity for the Asset or Liability have Significantly Decreased and Identifying Transactions that Are Not Orderly" (FASB ASC 820-10). FAS 157 defines fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date (i.e., the exit price). FASB ASC Section No. 820-10-35 establishes a three-tier fair value hierarchy which prioritizes the inputs used in measuring fair value. The three tiers include:

(i) Level 1 — quoted prices in active markets for identical assets and liabilities.

(ii) Level 2 — inputs other than quoted prices included within Level that are observable for the asset or liability, either directly or indirectly, or quoted prices for similar assets or liabilities in active markets.

(iii) Level 3 — unobservable inputs for which little or no market data exists, requiring management to develop its own assumptions.

Our available-for-sale securities have been classified as Level 1. These investments have initially been valued at the transaction price and subsequently valued typically utilizing third party pricing services. The pricing validate the prices provided by our third party pricing services by reviewing their pricing methods and matrices, obtaining market values from other pricing sources and analyzing pricing data in certain instances. The unrealized gains and losses in such securities are reflected, net of tax, in "Accumulated other comprehensive income (loss)" in the accompanying consolidated balance sheets.

Concentration of Credit Risk

Financial instruments which potentially subject the Company to concentrations of credit risk consist principally of cash, cash equivalents, available-for-sale securities, and accounts receivable. The Company maintains cash investments primarily in money market securities, U.S. Treasury and government agency securities. The Company maintains its holdings in cash in excess of federally insured amounts and in cash equivalents with high credit-quality financial institutions in order to minimize credit risk exposure.

Concentrations of credit risk with respect to accounts receivable are limited due to the large number of customers and the fact that the Company's accounts receivable is largely comprised of amounts owed by government agencies. The Company performs periodic credit evaluation of its customers' financial condition and generally does not require a deposit from government agencies or private institutions. The Company believes that individual private customers for paternity testing represent the most significant credit risk and generally requires a deposit for all or a portion of the services to be rendered to such customer. The Company records an allowance for doubtful accounts, reducing the receivables balance to an amount it estimates is collectible from its customers. Estimates used in determining the allowance for doubtful accounts are based on historical collection experience, current trends, aging of accounts receivable, and periodic credit evaluations of the Company's customers' financial condition. When aware of a specific customer's inability to meet its financial obligations, such as in the case of bankruptcy filings or deterioration in the customer's operating results or financial position, the Company records a specific reserve for bad debt to reduce the related receivable to the amount the Company reasonably believes is collectible. Accounts are also reviewed for potential write-off on a case by case basis. Accounts deemed uncollectible are written off, net of expected recoveries. If circumstances related to specific customers change, the Company's estimates of the recoverability of receivables could be further adjusted.

Fixed Assets

Fixed assets, which consist of lab equipment, furniture and fixtures, computers and software, are carried at cost, less accumulated depreciation, which is computed on the straight-line basis over the estimated useful lives of the related assets. Leasehold improvements, which are also included in fixed assets, are recorded at cost, less accumulated depreciation, which is computed on the straight-line basis over the shorter of their estimated useful lives or the lease term. Expenditures for maintenance and repairs are charged to expense as incurred. Upon retirement or other disposition of fixed assets, the cost and related accumulated depreciation are removed from the accounts and the resulting gains or losses, if any, are reflected in earnings.

The following is a summary of the estimated useful lives of the Company's fixed assets:

	Useful Life
Laboratory equipment	5 years
Computers and software	3 years
Furniture and fixtures	7 years
Leasehold improvements	Life of lease or useful life if shorter

Inventory

Inventory is stated at the lower of cost or market. Cost is determined by the first-in, first-out method.

Business Combinations, Goodwill and Intangible Assets

The Company accounts for business combinations under the provisions of Statement of Financial Accounting Standards (FAS) No. 141, *Business Combinations* (FAS 141) (FASB ASC 805-10), which requires that the purchase method of accounting be used for all business combinations. FAS 141 also specifies criteria intangible assets acquired in a purchase method business combination must meet to be recognized and reported apart from goodwill. Goodwill represents the excess purchase price over the fair value of the tangible net assets and intangible assets acquired in a business combination. In accordance with FAS No. 142, *Goodwill and Other Intangible Assets* (FAS 142)) (FASB ASC 350-10), goodwill and intangible assets with indefinite useful lives are not amortized, but instead tested for impairment annually, or more frequently as needed when events or changes have occurred that would suggest an impairment of the asset. Impairment of goodwill is assessed by determining whether the fair values of the applicable reporting units exceed their carrying values. The evaluation of fair value requires the use of projections, estimates and assumptions as to the future performance of the operations in performing a discounted cash flow analysis, as well as assumptions regarding sales and earnings multiples that would be applied in comparable acquisitions. Intangible assets acquired as a result of a business combination are recorded at their fair value at the acquisition date. Intangible assets acquired individually are recorded at their acquisition cost. Definite lived intangible assets are amortized on a straight-line basis over their estimated useful lives.

Impairment of Long-Lived Assets and Long-Lived Assets to Be Disposed Of

In accordance with FAS No. 144, *Accounting for the Impairment or Disposal of Long-Lived Assets* (FAS 144) (FASB ASC 360-10), the Company reviews long-lived assets and intangible assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to the undiscounted future net cash flows expected to be generated by the asset. If such assets are considered to be impaired, the impairment to be recognized is measured by the amount by which the carrying amount of the assets exceeds the fair value of the assets. Assets to be disposed of are reported at the lower of the carrying amount or fair value less costs to dispose.

Income Taxes

The Company accounts for income taxes in accordance with the asset and liability method prescribed by FAS No. 109, *Accounting for Income Taxes* (FASB ASC 740). Under this method, deferred tax assets and liabilities are determined based on the difference between the financial statement and tax basis of assets and liabilities, and net operating loss (NOL) and credit carryforwards. Deferred tax assets and liabilities are measured using tax rates in effect for the years in which the items are expected to reverse. The measurement of deferred tax assets is reduced, if necessary, by a valuation allowance for any tax benefits which are not expected to be realized. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in the period that such tax rate changes are enacted. In certain situations, a taxing authority may challenge positions that the Company has adopted in the income tax filings. Accordingly, the Company may apply different tax treatment for these selected transactions in filing its tax return than for financial reporting purposes. The Company regularly assesses its uncertain tax position and records a liability if appropriate. The liability is utilized or reversed once the statute of limitations has expired or the matter is otherwise resolved.

Revenue Recognition

The Company recognizes DNA laboratory services revenues at the time test results are completed and reported if persuasive evidence of an arrangement exists, the price to the buyer is fixed or determinable and collectibility is reasonably assured. Deferred revenues represent the unearned portion of payments received in advance of tests being completed and reported. Unbilled receivables represent revenue which has been earned on completed and reported tests, but has not been billed to the customer. Revenues from license arrangements, including license fees creditable against future royalty obligations of the licensee, are recognized when an arrangement is entered into if the Company has no significant continuing involvement under the terms of the arrangement. If the Company has significant continuing involvement under such an arrangement, license fees are deferred and recognized over the estimated performance period. Management has made estimates and assumptions relating to the performance period, which are subject to change. Changes in these estimates and assumptions could affect the amount of revenues from licenses reported in any given period.

Research and Development

Costs incurred for research and product development, including salaries and related personnel costs, fees paid to consultants and outside service providers, and material costs for prototypes and test units, are expensed as incurred. The Company recognizes research and development expenses in the period incurred and in accordance with the specific contractual performance terms of such research agreements. Costs incurred in obtaining technology licenses and development of software is charged to research and development expense if the technology licensed or the software being developed has not reached technological feasibility.

Use of Estimates

The preparation of consolidated financial statements in conformity with US generally accepted accounting principles (GAAP) requires the Company to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities as of the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. The Company bases its estimates on historical experience and on other assumptions that it believes to be relevant under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. In particular, judgment is used in areas such as the allowance for doubtful accounts, impairment of long-lived assets and goodwill, accrual of bonuses, lease guarantee liability, stock-based compensation and income taxes. Actual results could differ from these estimates.

Financial Instruments

The carrying amounts of cash and cash equivalents, accounts receivable and accounts payable approximate their fair values because of the short maturity of these instruments. The carrying amount of available for sale securities approximate their fair value based on quoted market prices as of December 31, 2009.

Foreign Currency Translation

The balance sheets of foreign subsidiaries are translated into US dollars at current year-end rates, and the statements of operations are translated at average monthly rates during each monthly period. Net exchange gains or losses resulting from the translation of foreign financial statements and the effect of exchange rate changes on intercompany transactions of a long-term investment nature are accumulated and credited or charged directly to a separate component of stockholders' equity. Any foreign currency gains or losses related to transactions are charged to other income (expense), net.

Net Loss Per Share

Net loss per share is computed in accordance with FAS No. 128, *Earnings Per Share* (FAS 128) (FASB ASC 260-10) by dividing the net loss allocable to common stockholders by the weighted average number of shares of common stock outstanding. The Company has certain options which have not been used in the calculation of diluted net loss per share allocable to common stockholders because to do so would be anti-dilutive. As such, the numerator and the denominator used in computing both basic and diluted net loss per share allocable to common stockholders for each year presented are equal.

Advertising

The Company expenses all advertising costs as incurred.

Sales and Value Added Taxes

Sales and value added (VAT) taxes collected from customers are excluded from revenues. The obligation is included in accrued liabilities until the taxes are remitted to the appropriate taxing authorities.

Recent Accounting Pronouncements

In June 2009, the Financial Accounting Standards Board (FASB) issued FAS No. 168, The FASB Accounting Standards Codification TM and the Hierarchy of Generally Accepted Accounting Principles — a replacement of FASB Statement No. 162 or FAS 168 (FASB ASC 105-10). FAS 168 replaces all previously issued accounting standards and establishes the FASB Accounting Standards Codification TM (FASB ASC) as the source of authoritative accounting principles recognized by the FASB to be applied by nongovernmental entities in the preparation of financial statements in conformity with GAAP. FAS 168 is effective for all interim and annual periods ending after September 15, 2009. The FASB ASC is not intended to change existing US GAAP. The adoption of this pronouncement will only result in changes to the Company's financial statement disclosure and periodic reporting references. As such, the adoption of this pronouncement has no effect on the Company's consolidated financial position, results of operations, or cash flows.

In order to facilitate the transition to the FASB ASC, the Company has elected to show all references to GAAP within this Annual Report on Form 10-K as usual along with a parenthetical FASB ASC reference.

Effective January 1, 2009, the Company adopted all the provisions of FAS No. 157, *Fair Value Measurements* (FAS 157) (FASB ASC 820-10). FAS 157 defines fair value, establishes a framework for measuring fair value and expands disclosures about fair value measurements. FAS 157 is applicable whenever another accounting pronouncement requires or permits assets and liabilities to be measured at fair value. FAS 157 does not expand or require any new fair value measures, however, the application of this statement may change current practice. The implementation of this standard did not have a material impact on the Company's consolidated financial statements.

Effective January 1, 2009, the Company adopted FAS No. 141 (revised 2007), *Business Combinations* (FAS 141(R)), which replaces FAS No. 141, *Business Combinations* (FASB ASC 805-20). FAS 141(R) establishes principles and requirements for how an acquirer recognizes and measures in its financial statements the identifiable assets acquired, the liabilities assumed, any non-controlling interest in the acquiree and the goodwill acquired. This statement also establishes disclosure requirements which will enable users to evaluate the nature and financial effects of the business combination. FAS 141(R) applies prospectively to a company's business combinations for which the acquisition date is on or after January 1, 2009. The implementation of this standard

did not have a material impact on the Company's consolidated financial statements, however, it may have an impact on future business combinations.

Effective January 1, 2009, the Company adopted FASB Staff Position (FSP) No. 142-3, *Determination of the Useful Life of Intangible Assets* (FSP 142-3) (FASB ASC 350-30). FSP 142-3 amends the factors that should be considered in developing assumptions about renewal or extension used in estimating the useful life of a recognized intangible asset under FAS 142, *Goodwill and Intangible Assets* (FASB ASC 350-10). FSP 142-3 is intended to improve the consistency between the useful life of a recognized intangible asset under FAS 142 and the period of expected cash flows used to measure the fair value of the asset under FAS 141(R) and other GAAP. The measurement provisions of this standard apply only to intangible assets of the Company acquired on or after January 1, 2009. The implementation of this standard did not have a material impact on the Company's consolidated financial statements.

Effective January 1, 2009, the Company adopted EITF Issue No. 07-5, *Determining Whether an Instrument (or Embedded Feature) Is Indexed to an Entity's Own Stock* (EITF 07-5) (FASB ASC 815-40). EITF 07-5 provides that an entity should use a two step approach to evaluate whether an equity-linked financial instrument (or embedded feature) is indexed to its own stock, including evaluating the instrument's contingent exercise and settlement provisions. It also clarifies the impact of foreign currency denominated strike prices and market-based employee stock option valuation instruments on the evaluation. The implementation of this standard did not have a material impact on the Company's consolidated financial statements.

Effective January 1, 2009, the Company adopted EITF Issue No. 08-5, *Issuer's Accounting for Liabilities Measured at Fair Value With a Third-Party Credit Enhancement* (EITF 08-5) (FASB ASC 820-10). EITF 08-5 provides guidance for measuring liabilities issued with an attached third-party credit enhancement (such as a guarantee). It clarifies that the issuer of a liability with a third-party credit enhancement (such as a guarantee) should not include the effect of the credit enhancement in the fair value measurement of the liability. The implementation of this standard did not have a material impact on the Company's consolidated financial statements.

In May 2009, the FASB issued FAS 165, *Subsequent Events* (FAS 165) (FASB ASC 855-10). FAS 165 sets forth the period after the balance sheet date during which management of a reporting entity should evaluate events or transactions that may have occurred for potential recognition or disclosure in the financial statements, the circumstances under which an entity should recognize events or transactions occurring after the balance sheet date in its financial statements and the disclosures that an entity should make about events or transactions that occurred after the balance sheet date. The Company adopted FAS 165 as of June 30, 2009, which was the required effective date. The implementation of this standard did not have a material impact on the Company's consolidated financial statements. In accordance with FAS 165, the Company has evaluated subsequent events through March 12, 2010, which is the date these consolidated financial statements were issued. All subsequent events requiring recognition as of December 31, 2009 have been incorporated into these consolidated financial statements herein.

(2) Stock-based Compensation

During 1995, the Company established the 1995 Stock Incentive Plan (the 1995 Plan), which provided for the granting of restricted common stock or incentive and nonqualified stock options to the Company's directors, employees and consultants. An aggregate of 700,000 shares of the Company's common stock was authorized for issuance under the 1995 Plan, which expired by its terms on November 28, 2005.

During 2000, the Board of Directors and stockholders of the Company approved the 2000 Employee, Director and Consultant Stock Incentive Plan (the 2000 Plan) for the issuance of common stock, incentive stock options and nonqualified stock options to the Company's employees, directors and consultants. The Company was originally authorized to issue options for up to 900,000 shares of the Company's common stock under the 2000 Plan. On June 8, 2005, at the Company's Annual Meeting of Stockholders, the stockholders approved the Company's Amended and Restated 2005 Stock Plan (the 2005 Plan). The 2005 Plan amended and restated in its entirety the 2000 Plan. The 2005 Plan authorizes the grant of up to approximately 1,700,000 shares plus the number of additional shares as described in the 2005 Plan, for the issuance of incentive stock options, nonqualified stock options, stock grants and other stock-based awards to the Company's employees, directors and consultants. On June 21, 2007, at the Company's Annual Meeting of Stockholders, the stockholders approved an amendment to the 2005 Plan to increase the aggregate number of shares available for issuance under the 2005 Plan by 2,000,000 shares. The 2005 Plan also specifies other terms such as eligibility, annual limits and the grant of awards thereunder. The 1995 Plan and the 2005 Plan provide that in the event of a change in control in the beneficial ownership of the Company, as defined therein, all options may, at the discretion of the compensation committee of the Company's Board of Directors, become fully vested and exercisable immediately prior to the change in control.

Stock options granted under the 2005 Plan are granted at a price equal to or greater than the fair market value of the Company's common stock at the date of grant. Stock options granted to employees in general vest over four years in equal monthly installments and have a maximum term of ten years. Stock options granted to the Company's Board of Directors in general vest over three years in equal monthly installments and have a maximum term of ten years. The Company issues new shares of its common stock upon exercise of stock options.

Effective January 1, 2006, the Company adopted the provisions of, and accounts for stock-based compensation in accordance with, FAS No. 123(R), *Share-Based Payment* (FAS 123(R))) (FASB ASC 718-10). Under the fair value recognition provisions of this statement, stock-based compensation cost is measured at the grant date based on the fair value of the award and is recognized as expense over the requisite service period, which is the vesting period. The Company has applied the modified prospective method of adoption, under which prior periods are not restated for comparative purposes. Under the modified prospective method, FAS 123(R) applies to new awards and to awards that were outstanding as of December 31, 2005 that are subsequently modified, repurchased or cancelled. Compensation expense recognized during the years ended December 31, 2009, 2008 and 2007 includes expense for all share-based payments granted prior to, but not yet vested as of, December 31, 2005, based on the grant date fair value estimated in accordance with the original provisions of FAS No. 123, *Accounting for Stock-Based Compensation,* and expense for all share-based payments granted subsequent to December 31, 2005, based on the grant date fair value estimated in accordance with the provisions of FAS 123(R). Stock-based compensation is classified within cost of service revenues, research and development, marketing and sales and general and administrative expense in the consolidated statement of operations. As stock-based compensation expense recognized in the consolidated statement of operations is based on awards ultimately expected to vest, the amount of expense has been reduced for estimated forfeitures. FAS 123(R) requires forfeitures to be estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates. Forfeitures are estimated based on historical experience.

In November 2005, the FASB issued FSP No. 123(R)-3, *Transition Election Related to Accounting for the Tax Effects of Share-Based Payment Awards.* The Company has elected not to adopt the short-cut method to calculate the beginning balance of the hypothetical additional paid-in-capital (APIC) pool of the excess tax benefits upon the Company's adoption of FAS 123(R). Utilizing the long-haul method, the Company has determined that it has no hypothetical APIC pool that can be utilized to offset future shortfalls that may be incurred.

The Company's option grants include options which qualify as incentive stock options (ISO) for income tax purposes. The treatment of the potential tax deduction, if any, related to ISOs may cause variability in the Company's effective tax rate in future periods. In the period the compensation cost related to ISOs is recorded, a corresponding tax benefit is not recorded as it is assumed that the Company will not receive a tax deduction upon the exercise of such ISOs. The Company may be eligible for tax deductions in subsequent periods to the extent that there is a disqualifying disposition of the common stock underlying the ISO. The Company also receives a tax deduction upon the exercise of nonqualified stock options. In cases where the Company receives a tax deduction, the Company would record a tax benefit through the consolidated statement of operations in an amount not to exceed the corresponding cumulative compensation cost recorded in the consolidated financial statements for the particular option multiplied by the statutory tax rate. Any incremental tax benefit received by the Company in excess of the tax benefit recorded in the consolidated statement of operations would be recorded directly to APIC when realized.

The Company uses the Black-Scholes option pricing model to estimate the fair value of options granted, which requires the input of highly subjective assumptions. The Company's assumptions used in recognizing compensation expense in the consolidated statement of operations include estimating the length of time employees will retain their vested stock options before exercising them, the estimated volatility of the Company's common stock price over the expected term and the number of options that will ultimately not vest. Changes in the subjective assumptions can materially affect the estimate of the fair value of stock-based compensation and, consequently, the related amount of compensation expense recognized in the consolidated statement of operations.

The following weighted average assumptions were used in valuing the options granted during the years ended December 31, 2009, 2008 and 2007:

	2009	2008	2007
Risk-free interest rate	3.39%	3.46%	4.41%
Volatility	75%	80%	80%
Expected option term	6 years	6 years	6 years
Expected dividend yield	0%	0%	0%

The risk-free interest rate assumption is based upon the US Treasury yields in effect at the time of grant for a term that approximates the expected term of the option. The expected volatility assumption is based on the daily historical volatility of the Company's stock price over the expected term of the option. The Company's stock options are considered "plain vanilla" options based on the guidance in SEC Staff Accounting Bulletin (SAB) No. 107, *Share-Based Payment* (SAB 107), as amended by SAB No. 110, *Share-Based Payment* (SAB 110), and as such the Company has elected the use of the "simplified" method, whereby the Company has assumed that all options will be exercised midway between the vesting date and the contractual term of the option to determine the expected term of the option The Company will continue to use the simplified method until it has the historical data necessary to provide a reasonable estimate of expected life, in accordance with SAB 107, as amended by SAB 110. As the Company has not paid dividends since inception, nor does it expect to pay any dividends for the foreseeable future, the expected dividend yield assumption is zero.

Net loss for the years ended December 31, 2009, 2008 and 2007 includes $1.5 million, $1.2 million and $1.2 million, respectively, of compensation costs related to stock-based compensation arrangements, including $207 thousand and $331 thousand related to the grant of 41,050 and 100,000 fully vested shares of common stock to the Company's President and Chief Executive Officer in December 2007 and 2006, respectively, pursuant to his amended employment agreement. The Company did not capitalize any of the compensation costs for the years ended December 31, 2009, 2008 and 2007 in fixed assets, inventory or other assets. The Company has not

benefited from a tax deduction for stock option exercises due to net losses for the periods during which the options were exercised.

Information with respect to outstanding options under the plans at December 2007, 2008 and 2009 and changes during the years presented is as follows:

	Shares	Weighted average exercise price	Weighted average remaining contractual term	Aggregate intrinsic value
Options outstanding at January 1, 2007	1,419,053	$ 9.09		
Granted	444,812	4.93		
Exercised	(14,235)	1.71		
Cancelled	(195,615)	8.27		
Options outstanding at December 31, 2007	1,653,925	$ 8.13	7.60	$906,000

	Shares	Weighted average exercise price	Weighted average remaining contractual term	Aggregate intrinsic value
Options outstanding at January 1, 2008	1,653,925	$ 8.13		
Granted	614,468	3.05		
Exercised	(875)	2.18		
Forfeited	(56,026)	4.52		
Expired	(48,688)	7.78		
Options outstanding at December 31, 2008	2,162,804	$ 6.79	7.35	$ 0

	Shares	Weighted average exercise price	Weighted average remaining contractual term	Aggregate intrinsic value
Options outstanding at January 1, 2009	2,162,804	$ 6.79		
Granted	690,314	1.58		
Exercised	—	—		
Cancelled	(295,893)	10.49		
Options outstanding at December 31, 2009	2,557,225	$ 4.95	7.42	$ 83,300
Options exercisable at December 31, 2009	1,622,977	$ 6.26	6.56	$ 29,856

Additional information about the Company's share-based payments is as follows (in thousands, except per share data):

	Year ended December 31,		
	2009	2008	2007
Total intrinsic value of options exercised	$ —	$ 2	$ 51
Net cash proceeds from the exercise of stock options	—	2	24
Weighted average grant date fair value per share of options granted	1.08	2.15	3.52

As of December 31, 2009, there was $1.6 million of unrecognized compensation cost related to stock options, which is expected to be recognized over a weighted average period of 2.01 years.

(3) Inventory

Inventory is comprised of the following at December 31, 2009 and 2008 (in thousands):

	2009	2008
Raw materials	$1,001	$ 832
Work in progress	533	426
Finished goods	8	4
	$1,542	$1,262

Raw materials consist mainly of reagents, enzymes, chemicals and plates used in DNA testing. Work in progress consists mainly of case work not yet completed and DNA testing kits that are being processed. Finished goods consist mainly of DNA testing kits that have not yet been shipped.

(4) Fixed Assets

Fixed assets are comprised of the following at December 31, 2009 and 2008 (in thousands):

	2009	2008
Laboratory equipment	$ 14,141	$ 13,405
Computers and software	6,628	6,122
Leasehold improvements	5,223	5,454
Furniture and fixtures	1,702	1,529
	27,694	26,510
Less accumulated depreciation	(22,891)	(20,651)
	$ 4,803	$ 5,859

Depreciation expense for the Company's fixed assets for the years ended December 31, 2009, 2008 and 2007 amounted to $2.0 million, $2.6 million and $2.9 million, respectively.

(5) Accrued Expenses and Other Current Liabilities

Accrued expenses and other current liabilities are comprised of the following at December 31, 2009 and 2008 (in thousands):

	2009	2008
VAT and other taxes	$1,415	$ 966
Professional fees	240	441
Employee compensation	475	376
Facility related accruals	380	273
Restructuring	142	40
Other	419	192
	$3,071	$2,288

(6) Goodwill and Other Intangible Assets

The following table sets forth the activity for goodwill during the years ended December 31, 2009 and 2008 (in thousands):

Balance as of December 31, 2007	$9,519
Goodwill recorded from the acquisition of ReliaGene Technologies, Inc. (ReliaGene)	146
Effect of foreign currency translation	(329)
Balance as of December 31, 2008	9,336
Effect of foreign currency translation	87
Balance as of December 31, 2009	$9,423

The Company has performed an annual assessment of goodwill as required under the provisions of FAS 142, and concluded that goodwill was not impaired. The Company performed an impairment assessment as of December 31, 2009 and concluded that its long-lived assets were not impaired.

The following table sets forth the Company's other intangible assets at December 31, 2009 and 2008 (in thousands):

	2009			2008		
	Cost (1)	Accumulated Amortization	Net	Cost (1)	Accumulated Amortization	Net
Customer list	$ 7,264	$ (5,262)	$2,002	$ 6,741	$ (4,178)	$2,563
Patents and know-how	4,899	(3,240)	1,659	4,894	(2,820)	2,074
Trademark/tradename	4,263	(3,131)	1,132	4,194	(2,731)	1,463
Base technology	6,019	(5,049)	970	5,978	(4,516)	1,462
Non-compete agreements	20	(20)	—	20	(12)	8
Totals	$22,465	$(16,702)	$5,763	$21,827	$(14,257)	$7,570

(1) Cost includes the cumulative historical effect of foreign currency translation on intangible assets acquired in a prior business combination. This cumulative historical effect of foreign currency translation amounted to $201 thousand and $4 thousand as of December 31, 2009 and 2008, respectively.

The Company's expected future amortization expense related to intangible assets over the next five years is as follows (in thousands):

2010	$1,858
2011	1,444
2012	727
2013	656
2014	236

(7) Restructuring

During the year ended December 31, 2009, the Company recognized $161 thousand in restructuring expenses related to the consolidation of the Company's East Lansing, Michigan paternity testing operations into

the Company's Dayton, Ohio facility. The Company announced this planned consolidation on October 20, 2009 and expects to complete this consolidation and close the East Lansing facility by July 1, 2010. The expenses in 2009 relate primarily to employee severance costs and facility closure costs.

The Company currently expects to incur restructuring charges and cash expenditures in connection with this consolidation of $775 thousand to $1.0 million in the aggregate, which includes: severance and retention bonuses for employees in the range of $450 thousand to $550 thousand; relocation costs for employees relocating from the East Lansing facility in the range of $50 thousand to $75 thousand; recruiting and training costs for the Dayton facility in connection with the transfer of work from the East Lansing facility of approximately $50 thousand; lease termination costs in the range of $150 thousand to $200 thousand; and equipment relocation and reinstallation costs in the range of $75 thousand to $125 thousand. A substantial portion of these charges and expenditures are expected to be reported in first and second quarters of 2010. The Company currently expects to offset these restructuring charges and expenditures through annual cost savings of approximately $1 million from operational efficiencies, plant and equipment cost reductions and increased scalability.

A summary of the restructuring activity in 2009 is as follows (in thousands):

	Workforce Reduction	Facility Costs	Total
Restructuring charges recorded in 2009	$142	$—	$142
Cash payments in 2009			
Restructuring liability as of December 31, 2009	$142	$—	$142

(8) Debt

As part of the acquisition of ReliaGene on October 31, 2007, we assumed $948 thousand in debt comprised of a line of credit and various notes payable with outstanding balances of $260 thousand and $688 thousand, respectively. The line of credit was fully paid off during 2008 with a then outstanding balance of $170 thousand. The notes payable, which were secured by ReliaGene's equipment, had interest rates ranging from 4.50% to 8.50% and maturity dates ranging from June 30, 2009 through September 5, 2011. In April 2009, we fully paid off the ReliaGene notes payable, along with all accrued interest. At December 31, 2008, the outstanding balance for the notes payable was $338 thousand, which was classified as current portion of long-term debt on the consolidated balance sheet.

(9) Income Taxes

The provision for income taxes is based on loss from continuing operations before income taxes reported for financial statement purposes. The components are as follows (in thousands):

	Year ended December 31,		
	2009	2008	2007
United States	$(3,295)	$(6,107)	$(5,912)
Foreign	1,719	(82)	2,965
Loss before income taxes	$(1,576)	$(6,189)	$(2,947)

The components of income tax expense (benefit) are summarized as follows (in thousands):

	Year ended December 31,		
	2009	2008	2007
Current income tax expense (benefit):			
State	$ —	$(1,468)	$(1,149)
Foreign	168	(193)	1,101
Total current expense (benefit)	168	(1,661)	(48)
Deferred foreign tax expense (benefit)	(203)	(47)	68
Income tax expense (benefit)	$ (35)	$(1,708)	$ 20

During 2009, the Company recognized a current foreign tax expense of $168 thousand. Included in the expense is a current benefit of $192 thousand relating to certain allowances and deductions taken on our tax returns.

During 2008, the Company recognized a current foreign tax benefit of $193 thousand, primarily from the reversal of a reserve for tax return positions taken on its UK subsidiary tax return filings as a result of expired statutes of limitations and a deferred foreign tax benefit of $47 thousand. In addition, the Company recorded a tax benefit of $1.5 million associated with the sale of some of its state NOL carryforwards. No tax benefit was recorded relating to our US business' losses or other US deferred tax assets as management deemed that it was not more likely than not that such tax benefit would be realized.

During 2007, the Company recognized current foreign tax expense of $1.1 million and deferred foreign tax expense of $68 thousand, primarily for its profitable business in the UK. In addition, the Company recorded a tax benefit of $1.1 million associated with the sale of some of its state NOL carryforwards during the fourth quarter of 2007. No tax benefit was recorded relating to the Company's US business' losses or other deferred tax assets as management deemed that it was not likely than such tax benefit would be realized.

The Company adopted the provisions of FASB Interpretation No. 48, Accounting for Uncertainty in Income Taxes (FIN 48) (FASB ASC 740), on January 1, 2007. As a result of the implementation of FIN 48, the Company recognized no material adjustment in the liability for unrecognized income tax benefits. As of January 1, 2007 and December 31, 2007, the unrecognized tax benefits amounted to approximately $175 thousand, including an immaterial amount for accrued interest and penalties related to uncertain tax positions, all of which would affect the Company's effective tax rate if recognized. During the year ended December 31, 2009 the Company increased its reserve for unrecognized tax benefits by $225 thousand relating to certain allowances and deductions taken on its tax returns. During the year ended December 31, 2008, as a result of expired statutes of limitations, the Company recognized a previously unrecognized income tax benefit of $175 thousand. The Company recognizes interest and penalties related to uncertain tax positions in income tax expense. The tax years 2007 and 2008 remain open to examination by the UK taxing authorities and the tax years 2006 to 2008 remain open to examination by the US taxing authorities. In addition, the US taxing authorities may examine the tax years from the Company's inception in 1995 through 2005, but are barred from adjusting the tax liabilities in excess of the net operating losses generated in any of those tax years. The amount of unrecognized tax benefits that, if recognized, would affect the effective tax rate is $225 thousand.

A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows (in thousands):

Balance at January 1, 2008	$ 175
Additions based on tax positions related to the current year	—
Additions for tax positions of prior years	—
Reductions for tax positions of prior years	—
Lapse of statute	(175)
Settlements	—
Balance at December 31, 2008	$ —
Additions for tax positions of prior years	225
Reductions for tax positions of prior years	—
Lapse of statute	—
Settlements	—
Balance at December 31, 2009	$ 225

The tax effects of temporary differences and loss and credit carryforwards that give rise to significant portions of the deferred tax assets and liabilities of the Company at December 31, 2009 and 2008 are presented below (in thousands):

	2009	2008
Deferred tax assets:		
Bad debt allowance and inventory reserve	$ 78	$ 186
Stock-based compensation	1,141	729
Deferred revenue	211	219
NOL carryforwards	89,073	94,619
Research and development and foreign tax credits	3,812	4,194
Accrued restructuring expenses	94	104
Accrued expenses	92	19
Amortization and depreciation	2,707	2,201
Investments	280	308
Total gross deferred tax assets	97,488	102,579
Less valuation allowance	(94,848)	(99,990)
Net deferred tax assets	2,640	2,589
Deferred tax liabilities:		
Intangible assets	(1,847)	(2,242)
Net deferred taxes	$ 793	$ 347

At December 31, 2009 and 2008, valuation allowances of $94.8 million and $100.0 million, respectively, have been recognized to offset the net deferred tax assets related to the US operations of the Company, as realization of these assets is uncertain. The net change in the valuation allowance for 2009 and 2008 was a decrease of $5.1 million and a decrease of $888 thousand, respectively, related primarily to amortization, depreciation, and the expiration of state NOL carryforwards.

As of December 31, 2009, the Company has $250.0 million and $66.2 million of federal and state NOL carryforwards, respectively, available to offset future taxable income. Some of the federal and state NOL

carryforwards the Company has generated or acquired have begun to expire. Utilization of our NOL carryforwards to offset future taxable income, if any, may be substantially limited due to the "change of ownership" provisions in the Tax Reform Act of 1986, or the Act. The Act provides for a limitation on the annual use of NOL carryforwards and research and development credits following certain ownership changes, as defined by the Act, which could significantly limit our ability to utilize or sell these carryforwards and research and development credits. The Company has determined that an ownership change, as defined by the Act, occurred in 1999 and as a result $41.4 million of our NOL carryforwards are limited. The Company may have experienced other ownership changes as a result of past financings and may experience others in connection with future financings. Accordingly, our ability to utilize the aforementioned federal NOL carryforwards may be further limited.

At December 31, 2009, the Company had New Jersey research and development and federal foreign tax credit carryforwards of $3.8 million, which will begin expiring in 2022 and 2017, respectively. As a result of the Company's acquisitions of GeneScreen, Inc. and Lifecodes Corporation, the Company acquired federal NOL carryforwards of $4.5 million and $2.0 million, respectively, of which $1.5 million has expired.

The Company recorded an income tax benefit of $35 thousand in 2009, an income tax benefit of $1.7 million in 2008, and an income tax expense of $20 thousand in 2007. The following table represents a reconciliation of the Company's income tax expense to amounts computed by applying the statutory US federal income tax rate of 35% to loss before income taxes (in thousands):

	Year ended December 31,		
	2009	2008	2007
Computed expected tax benefit	$ (552)	$(2,166)	$(1,031)
State income taxes, net of federal income tax benefit	(64)	(1,468)	(1,114)
Foreign operations	(625)	(37)	(185)
Write down of unrecognized income tax benefits	—	(175)	—
Permanent differences	85	545	397
Expiration of tax attribute carryforwards	1,727	—	—
Change in effective state tax rate	4,536	—	—
Change in valuation allowance	(5,142)	1,593	1,953
	$ (35)	$(1,708)	$ 20

The Company sold certain state NOL carryforwards in accordance with the state of New Jersey's Corporation Business Tax Benefit Certificate Transfer program (the Program) and generated benefits of $1.5 million and $1.1 million for 2008 and 2007, respectively. The Program allows certain high technology and biotechnology companies to sell unused NOL carryforwards to other New Jersey corporation business taxpayers. During 2008 and 2007, the Company completed the sale of $21.3 million and $15.4 million, respectively, of its New Jersey NOL carryforwards. The carryforward period for the Company's pre-qualified losses under this program expired January 1, 2009.

The Company has made no provision for US taxes on cumulative earnings of foreign subsidiaries as those earnings are intended to be reinvested for an indefinite period of time. The Company's cumulative undistributed earnings of foreign subsidiaries amounted to $8.8 million at December 31, 2009. Determination of the potential amount of unrecognized deferred US income tax liability related to such reinvested income is not practicable because of numerous assumptions associated with this hypothetical calculation. However, foreign tax credits

would be available to reduce some portion of this amount. As of December 31, 2009 and based on tax laws in effect as of this date, it is the Company's intention to indefinitely reinvest the undistributed earnings of foreign subsidiaries.

(10) Significant Customers and Geographic Information

During the years ended December 31, 2009 and December 31, 2008, the Company did not have a customer significant enough to generate 10% or more of its total revenues. During the year ended December 31, 2007, the Company generated $12.5 million or 21% of its total revenues through an agreement with one customer.

The Company has significant international operations, primarily in the UK. During the years ended December 31, 2009, 2008 and 2007, the Company recorded revenues from international customers of $29.5 million, or 50%, $26.4 million, or 46% and $30.0 million, or 50%, respectively, of total revenues.

At December 31, 2009 and 2008, the Company has long-lived assets of $2.7 million and $3.3 million located in the US, and $2.1 million and $2.5 million located in the UK, respectively.

(11) Common Stock Offerings

On November 21, 2006, the Company entered into definitive agreements with certain new and existing institutional investors to raise $14.0 million in gross proceeds ($13.1 million in net proceeds after direct transaction costs) in a common stock private placement. Pursuant to the agreements, the Company sold approximately 4,875,000 shares of common stock at $2.88 per share. The transaction closed on November 21, 2006.

On February 26, 2004, the Company entered into definitive agreements with new and existing institutional investors to raise $30.3 million in gross proceeds ($26.1 million in net proceeds after direct transaction costs) in a common stock private placement. The transaction closed on February 27, 2004. Pursuant to the agreements, the Company sold approximately 3,158,000 shares of common stock at $9.60 per share and granted the investors four-year warrants to purchase an additional approximately 632,000 shares of the Company's common stock at an exercise price of $11.48 per share, all of which expired by their terms and without exercise on February 27, 2008. The Company determined that the securities purchase agreement did not expressly provide that the shares issuable upon the exercise of the warrants had to be registered and there were no express or implied remedies to the warrant holders that would indicate that the Company was required to net-cash settle the warrants in the event of delivery of unregistered shares in settlement of the contract. In accordance with the guidance in the FASB's EITF Issue No. 00-19, *Accounting for Derivative Financial Instruments Indexed to, and Potentially Settled in, a Company's Own Stock*, the Company accounted for the warrants issued in this transaction as part of permanent equity.

(12) Stockholder Rights Plan

On May 16, 2001, the Company's Board of Directors adopted a Stockholder Rights Plan (Rights Plan), which is designed to protect the Company's stockholders in the event of any takeover offer. On May 16, 2001, the Company's Board of Directors declared a dividend of one preferred stock purchase right (a Right) for each outstanding share of the Company's common stock to stockholders of record at the close of business on May 31, 2001 (the Record Date). Each Right entitles the registered holder to purchase from the Company one one-hundredth of a share of Series A junior participating preferred stock, $0.001 par value per share, at an initial purchase price of $40.00 in cash, subject to adjustment.

Initially, the Rights will be attached to all common stock certificates representing shares then outstanding, and no separate Rights certificates will be distributed. The Rights will separate from the common stock and a Distribution Date, as defined in the Rights Plan, will occur if certain events as described below transpire. Rights will also be attached to all shares of common stock issued following the Record Date but prior to the Distribution Date. The Rights are not exercisable until the Distribution Date and will expire at the close of business on May 16, 2011, unless earlier redeemed by the Company. The Distribution Date has not occurred as of December 31, 2009.

In the event that a person or a group of affiliated or associated persons becomes the beneficial owner of more than 15% of the then outstanding shares of common stock (except pursuant to an offer for all outstanding shares of common stock which the Board of Directors determines to be fair to, and otherwise in the best interests of, the Company and its stockholders), each holder of a Right will thereafter have the right to receive, upon exercise, that number of shares of common stock (or, in certain circumstances, cash, property or other securities of the Company) which equals the exercise price of the Right divided by one-half of the current market price (as defined in the Rights Plan) of the common stock at the date of the occurrence of the event. However, Rights are not exercisable following the occurrence of any of the events set forth above until such time as the Rights are no longer redeemable by the Company. In the event that the Company is acquired in a merger or other business combination transaction in which the Company is not the surviving corporation, or, more than 50% of the Company's assets or earning power is sold or transferred, each holder of a Right shall thereafter have the right to receive, upon exercise, that number of shares of common stock of the acquiring company which equals the exercise price of the Right divided by one-half of the current market price (as defined in the Rights Plan) of such common stock at the date of the occurrence of the event.

(13) Employee Stock Purchase Plan

During the year ended December 31, 2003, the Company's stockholders approved the 2003 Employee Stock Purchase Plan (the ESPP). The ESPP has not yet been implemented and there are no plans to implement the ESPP at this time. Employees who own more than 5% of the Company's stock may not participate in the ESPP. At the beginning of an offering period, as defined in the ESPP document, each participant receives an option to purchase shares of common stock at the end of each accumulation period, at an exercise price equal to the lesser of 85% of (i) the fair market value of the common stock on the last trading day before the start of the applicable offering period, or (ii) the fair market value of the common stock on the last trading day of the accumulation period. The maximum number of shares that may be purchased by any participant in the ESPP in an accumulation period is 25,000 shares. No participant may purchase shares having an aggregate fair market value greater than $25 thousand in any calendar year. A total of 650,000 shares of the Company's common stock are reserved for issuance under the ESPP as of December 31, 2009. The ESPP may be amended, suspended or terminated at any time by the Board of Directors. Amendments affecting any increase in the number of shares available under the ESPP and any other amendment to the extent required by applicable law or regulation shall be subject to the approval of the Company's stockholders.

(14) Employee Benefit Plan

The Company sponsors a defined contribution 401(k) savings plan (the 401(k) Plan) covering all US-based employees of the Company. Participants can contribute up to 15% of their pretax annual compensation to the 401(k) Plan, subject to certain limitations. The Company matches 50% of the participant's contribution, up to 4% of compensation. For the years ended December 31, 2009, 2008 and 2007, the Company's contributions amounted to $146 thousand, $161 thousand and $168 thousand, respectively, in accordance with the terms of the 401(k) Plan.

(15) Commitments and Contingencies

The Company leases office and laboratory facilities and certain equipment under non-cancelable operating lease arrangements. Several of the Company's facility leases contain renewal options and rent escalation clauses. Rent expense amounted to $1.9 million in 2009, $2.0 million in 2008 and $1.9 million in 2007. Future minimum rental commitments required by such leases as of December 31, 2009 are as follows (in thousands):

2010	$1,801
2011	1,104
2012	844
2013	392
2014	388
Thereafter	903
	$5,432

In connection with the sale of assets and liabilities of the Company's Diagnostics business to Tepnel Life Sciences, PLC (Tepnel) in 2004, the Company was required to sign an unconditional guarantee related to the lease for the Stamford, Connecticut based laboratory, which was assigned to Tepnel. The fair value of the guarantee amounted to zero, respectively, for December 31, 2009 and 2008. The Company valued the guarantee based on the existing terms and conditions of the lease, an estimated vacancy period of the space prior to subleasing the space, and the likelihood of Tepnel breaching its obligation under the assigned lease. The lease terminates in April of 2010. Minimum remaining rents under the assigned lease totaled $755 thousand as of December 31, 2008. Based on Tepnel's continuing performance under the sublease and a review of risks associated with the guarantee, in 2008, the Company revised its estimate for the Tepnel lease guarantee. As a result, the Company recorded a benefit of $739 thousand for the year ended December 31, 2008, included in other income, net.

Several of the Company's operating leases contain clauses that could require it to restore the leased premises to their original condition. Based upon the nature of the Company's leasehold improvements and historical experience in exiting leases with similar clauses, the Company believes there is a minimal probability of it incurring a material restoration expense and as such, has not recorded an accrual for these obligations.

(16) Accumulated Other Comprehensive Income (Loss)

The accumulated balances for each classification of items within accumulated other comprehensive income (loss) are as follows (in thousands):

	Foreign currency translation	Unrealized gains (losses) on securities	Accumulated other comprehensive income (loss)
Balance at January 1, 2007	$ 3,408	$—	$ 3,408
Foreign currency translation adjustment	444	—	444
Balance at December 31, 2007	3,852	—	3,852
Foreign currency translation adjustment	(4,832)	—	(4,832)
Balance at December 31, 2008	(980)	—	(980)
Other comprehensive income (loss)	1,306	17	1,323
Balance at December 31, 2009	$ 326	$ 17	$ 343

(17) Related Party Transactions

During the three months ended June 30, 2008, the Company entered into a consulting agreement with L.E.K. Consulting LLP (L.E.K), of which Kenneth Noonan, Ph.D., a director of the Company, is a partner. The Company paid L.E.K. fees of $150 thousand in connection with their services, which were completed during the three months ended September 30, 2008.

(18) Legal Proceedings

On or about November 21, 2001, a complaint was filed in the United States District Court for the Southern District of New York naming the Company as a defendant, along with certain of the Company's former officers and underwriters. An amended complaint was filed on April 19, 2002. The complaint, as amended, purportedly was filed on behalf of persons purchasing the Company's stock between May 4, 2000 and December 6, 2000, and alleges violations of Sections 11, 12(a)(2) and 15 of the Securities Act of 1933, as amended, and Sections 10(b) and 20(a) of the Securities Exchange Act of 1934, as amended, and Rule 10b-5 promulgated thereunder. The amended complaint alleges that, in connection with the Company's May 5, 2000 initial public offering, or IPO, the defendants failed to disclose additional and excessive commissions purportedly solicited by and paid to the underwriter defendants in exchange for allocating shares of the Company's stock to preferred customers and alleged agreements among the underwriter defendants and preferred customers tying the allocation of IPO shares to agreements to make additional aftermarket purchases at pre-determined prices. Plaintiffs claim that the failure to disclose these alleged arrangements made the Company's registration statement on Form S-1 filed with the SEC in May 2000 and the prospectus, a part of the registration statement, materially false and misleading. On or about July 15, 2002, the Company filed a motion to dismiss all of the claims against the Company and the Company's former officers. On October 9, 2002, the Court dismissed without prejudice only the Company's former officers, Dale R. Pfost and Donald R. Marvin, from the litigation in exchange for the Company entering into a tolling agreement with plaintiffs' executive committee. On February 19, 2003, the Company received notice of the Court's decision to dismiss the Section 10(b) claims against the Company. Plaintiffs and the defendant issuers involved in related IPO securities litigation, including us, have agreed in principal on a settlement that, upon a one-time surety payment by the defendant issuers' insurers, would release the defendant issuers and the individual officers and directors from claims and any future payments or out-of-pocket costs. On March 10, 2005, the Court issued a memorandum and order (i) preliminarily approving the settlement, contingent on the parties' agreement on modifications of the proposed bar order in the settlement documents, (ii) certifying the parties' proposed settlement classes, (iii) certifying the proposed class representatives for the purposes of the settlement only and (iv) setting a further hearing for the purposes of (a) making a final determination as to the form, substance and program of notice of proposed settlement and (b) scheduling a public fairness hearing in order to determine whether the settlement can be finally approved by the Court. On April 24, 2006, the Court held a fairness hearing and took the motion for final approval under advisement. On October 5, 2009, the Court granted the plaintiffs' motion for an order of final approval of the settlement, plan of allocation and certification of the class. Such settlement does not require any payment by the Company to the plaintiffs.

In related proceedings against the underwriters, the United States Court of Appeals for the Second Circuit ruled on December 5, 2006 that the certification by the District Court for the Southern District of New York of class actions against the underwriters in six "focus" cases was vacated and remanded for further proceedings. In so doing, the Second Circuit ruled that "the cases pending on this appeal may not be certified as class actions." On April 6, 2007, the Second Circuit denied the plaintiffs' petition for rehearing, and no further appeals have been taken.

As a result of the Second Circuit's ruling, the plaintiffs and the issuers stipulated on June 22, 2007 that the Stipulation and Agreement of Settlement with Defendant Issuers and Individuals, which was originally submitted

to the Court on June 10, 2004, was terminated, which resolved the motion for final approval of the class action settlement with the issuers and individual defendants. The Court entered the parties' stipulation as an Order on June 25, 2007. As a result of these developments, the plaintiffs have filed amended complaints against the underwriters and "focus case" issuers and individuals and are attempting to certify a class action.

In response to the amended complaints, the underwriters and "focus case" issuers moved to dismiss the amended complaints. On March 26, 2008, the motion to dismiss was granted in part and denied in part. As a result, the Court will proceed with the plaintiffs' amended complaints against the underwriters and "focus case" issuers to determine whether class actions can be certified.

The Company is a defendant in litigation pending in the United States District Court for the Southern District of New York entitled Enzo Biochem, Inc. et al. (Enzo) v. Amersham PLC, et al. (Amersham), filed in October 2002. By their complaint, plaintiffs allege that certain defendants (i) breached their distributorship agreements by selling certain products for commercial development (which they allege was not authorized), (ii) infringed plaintiffs' patents through the sale and use of certain products, and (iii) are liable for unfair competition and tortious interference with contractual relations. The Company did not have a contractual relationship with plaintiffs, but the Company is alleged to have purchased the product at issue from one of the other defendants. The Company sold the business unit that was allegedly engaged in the unlawful conduct. As a result, there is no relevant injunctive relief to be sought from the Company. The complaint seeks damages in an undisclosed amount. Most of the fact discovery in the case has been taken, and a Markman hearing to construe the patent claims was conducted in early July 2005. On July 17, 2006, the Court ruled in the Company's favor on its construction of the patents asserted against the Company, and the co-defendants, including the Company, moved for summary judgment on all claims against the Company in January 2007. A hearing on the defendants' motions for summary judgment occurred on July 17-18, 2007, and the Court reserved ruling on the motions, taking them under advisement. Such matter has been delayed due to the death of the judge and the assignment of a new judge.

In other litigation brought by Enzo against another defendant under the same patents asserted against the Company, a Connecticut Federal Court has invalidated the patents asserted there and asserted against the Company in the New York case. That decision is on appeal. As a result of these developments, the defendants in the Enzo v. Amersham case requested a conference before the Court in order to determine how to proceed. Such conference was held on March 4, 2008 and the Court has not yet ruled on such determination.

On June 5, 2008, the Company and Beckman Coulter, Inc. filed suit against Sequenom, Inc, or Sequenom, in the United States District Court for the Southern District of California alleging infringement of U.S. patent numbers 5,888,819, 6,004,744 and 6,537,748. This lawsuit seeks damages and injunctive relief. Sequenom filed an answer and counterclaims on August 15, 2008. A reply to the counterclaims was filed on August 29, 2008. On June 22, 2009, the parties filed a stipulation of dismissal which dismissed the lawsuit with prejudice.

On February 12, 2010, a complaint was filed in the United States District Court for the Western District of Wisconsin by Genetic Technologies Limited naming the Company as a defendant, along with eight other companies. The complaint, entitled Genetic Technologies Limited v. Beckman Coulter, Inc., et al., alleges that the defendants infringed U.S. Patent No. 5,612,179 through the sale and use of certain products and services. There is no request for injunctive relief by the plaintiff. The Company has not been served with the complaint as of yet. The Company believes the allegations are without merit and intends to vigorously defend the Company against such claims.

Additionally, the Company has certain other claims against us arising from the normal course of our business. The ultimate resolution of such matters, including those cases disclosed above, in the opinion of

management, will not have a material effect on our financial position and liquidity, but could have a material impact on the Company's results of operations for any reporting period.

(19) Quarterly Financial Data (Unaudited)

The following tables represent certain unaudited consolidated quarterly financial information for each of the quarters in 2009 and 2008. In the opinion of the Company's management, this quarterly information has been prepared on the same basis as the annual consolidated financial statements and includes all adjustments (consisting only of normal recurring adjustments, except as disclosed below) necessary to present fairly the information for the periods presented (in thousands, except per share data):

	Quarters ended			
	March 31, 2009	June 30, 2009	September 30, 2009	December 31, 2009
Total revenues	$13,965	$14,687	$14,674	$15,737
Gross margin	4,785	5,130	4,876	5,723
Loss before income taxes	(1,029)	(465)	(426)	344
Net income (loss)	(1,172)	(603)	(625)	858
Basic and diluted net income (loss) per share	$ (0.04)	$ (0.02)	$ (0.02)	$ 0.03

	Quarters ended			
	March 31, 2008	June 30, 2008	September 30, 2008	December 31, 2008
Total revenues	$14,527	$15,224	$14,872	$12,972
Gross margin	4,091	5,001	4,372	3,844
Loss before income taxes	(2,520)	(1,224)	(1,327)	(1,118)
Net income (loss)	(2,274)	(1,221)	(1,459)	473
Basic and diluted net income (loss) per share	$ (0.08)	$ (0.04)	$ (0.05)	$ 0.02

During the fourth quarter of 2009, the Company granted a worldwide license to Illumina, Inc. for the commercial development of the Company's proprietary single base nucleotide extension technology for the diagnostic and forensic fields. Under the terms of the license transaction, the Company received a fee of $850 thousand as well as the potential of an additional $150 thousand in contingent milestone payments. During the fourth quarter of 2009, the Company recognized $850 thousand as revenues. The Company does not have future material obligations related to Illumina. The Company will also collect royalties received by Illumina through any subcontracting arrangements. Additionally, the licensing agreement allows the Company to purchase certain Illumina product offerings utilizing the patents as a preferred customer. Under the agreement, Orchid Cellmark reserves the rights to use the licensed patents for all fields of use.

During the fourth quarter of 2008, the Company revised its estimates for liabilities associated with accrued bonuses and the Tepnel lease guarantee and recorded a benefit of $233 thousand, included in cost of service revenues, general and administrative, marketing and sales and research and development expenses, and a benefit of $185 thousand, included in other income, net, respectively.

(20) Subsequent Event

On January 14, 2010, the Company announced the consolidation of its Nashville, Tennessee forensic DNA testing facility into its Dallas, Texas facility. The Company expects to complete this consolidation and close the Nashville facility by August 31, 2010. The Company currently expects to incur restructuring charges and cash

expenditures in connection with this action of $1.0 million to $1.3 million in the aggregate, which includes: severance and retention bonuses for employees in the range of $540 thousand to $680 thousand; relocation costs for employees relocating from the Nashville facility in the range of $85 thousand to $110 thousand; recruiting and training costs in its Dallas facility in connection with the transfer of work from the Nashville facility of approximately $50 thousand; lease termination costs in the range of $50 thousand to $100 thousand; and equipment relocation and reinstallation costs in the range of $300 thousand to $360 thousand. A substantial portion of these charges are expected to be reported in the second, third and fourth quarters of 2010. The Company currently expects to offset these restructuring charges and expenditures through annual cost savings of approximately $1.4 million from operational efficiencies, plant and equipment cost reductions and increased scalability.

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

Not applicable.

Item 9A. CONTROLS AND PROCEDURES

Disclosure Controls and Procedures.

Our principal executive officer and principal financial officer, after evaluating the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended, or the Exchange Act) as of the end of the period covered by this Annual Report on Form 10-K, have concluded that, based on such evaluation, our disclosure controls and procedures were effective to ensure that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms, and is accumulated and communicated to our management, including our principal executive and principal financial officers, or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure.

Management's Report on Internal Control over Financial Reporting.

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act. Our internal control system is a process designed by, or under the supervision of, our President and principal executive officer and principal financial officer and effected by our Board of Directors, management and other personnel to provide reasonable assurance regarding the reliability of our financial reporting and the preparation of financial statements for external reporting purposes in accordance with generally accepted accounting principles.

Our internal control over financial reporting includes policies and procedures that:

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

Because of inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Management assessed the effectiveness of our internal control over financial reporting as of December 31, 2009. In making this assessment, they used the control criteria framework of the Committee of Sponsoring Organizations, or COSO, of the Treadway Commission published in its report entitled Internal Control-Integrated Framework. Based on this evaluation, our management has concluded that our internal control over financial reporting was effective as of December 31, 2009 based on those criteria.

Changes in Internal Control over Financial Reporting.

There were no changes in our internal control over financial reporting identified in connection with the evaluation of such internal control that occurred during the quarter ended December 31, 2009 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Limitations on the Effectiveness of Controls.

The Company's disclosure controls and procedures are designed to provide reasonable assurance of achieving their objectives and our principal executive officer and principal financial officer have concluded that the Company's disclosure controls and procedures are effective at that reasonable assurance level. However, our management, including our principal executive officer and principal financial officer, does not expect that our disclosure controls and procedures or our internal control over financial reporting will prevent all error and all fraud. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within an organization have been detected. These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of simple error or mistake.

Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of the control. The design of any system of controls also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving our stated goals under all potential future conditions. Over time, controls may become inadequate because of changes in conditions, or the degree of compliance with the policies or procedures may deteriorate. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

Item 9B. OTHER INFORMATION

For information concerning the results of matters submitted to a vote of our stockholders at our Annual Meeting of Stockholders on October 7, 2009, please refer to Item 4 of our Quarterly Report on Form 10-Q for the quarterly period ended September 30, 2009 filed with the SEC on October 30, 2009.

Stockholders who wish to present any stockholder proposal or director nomination for the 2010 Annual Meeting of Stockholders, which we expect to hold on May 26, 2010, must deliver notice to us no later than the close of business on March 29, 2010 and must comply with the requirements of the SEC in order for any such stockholder proposal to be considered for inclusion in our proxy statement relating to the 2010 Annual Meeting of Stockholders. Stockholder proposals and director nominations delivered after such time will not be considered at the 2010 Annual Meeting of Stockholders. Management proxies may confer discretionary authority to vote on the matters presented at the 2010 Annual Meeting of Stockholders by a stockholder in accordance with the proxy rules of the SEC. All stockholder proposals and director nominations should be marked for the attention of Corporate Secretary, Orchid Cellmark Inc., 4390 US Route One, Princeton, New Jersey 08540.

PART III

Item 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The response to this item is incorporated by reference from the discussion responsive thereto under the captions "Management and Corporate Governance," "Section 16(a) Beneficial Ownership Reporting Compliance," "Code of Business Conduct and Ethics" and "Stockholder Proposals and Nominations for Director" in our Proxy Statement for the 2010 Annual Meeting of Stockholders.

Item 11. EXECUTIVE COMPENSATION

The response to this item is incorporated by reference from the discussion responsive thereto under the captions "Executive Officer and Director Compensation" and "Management and Corporate Governance—Compensation Committee Interlocks and Insider Participation" in our Proxy Statement for the 2010 Annual Meeting of Stockholders.

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

The response to this item is incorporated by reference from the discussion responsive thereto under the captions "Security Ownership" and "Executive Officer and Director Compensation—Equity Compensation Plan Information" in our Proxy Statement for the 2010 Annual Meeting of Stockholders.

Item 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The response to this item is incorporated by reference from the discussion responsive thereto under the captions "Certain Relationships and Related Person Transactions" and "Management and Corporate Governance—The Board of Directors" in our Proxy Statement for the 2010 Annual Meeting of Stockholders.

Item 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The response to this item is incorporated by reference from the discussion responsive thereto under the caption "Ratification of Appointment of Grant Thornton LLP" in our Proxy Statement for the 2010 Annual Meeting of Stockholders.

PART IV

Item 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(1) Financial Statements. See Index to Consolidated Financial Statements at Item 8, page 37 of this report.

(2) Financial Statement Schedules.

Schedule II. Valuation and Qualifying Accounts for the years ended December 31, 2009, 2008 and 2007.

(3) ***Exhibits***

The following is a list of exhibits filed as part of this Annual Report on Form 10-K.

Exhibit Number	Description
3.1(1)	Restated Certificate of Incorporation of the Registrant, dated May 10, 2000 (filed as Exhibit 3.1)
3.2(1)	Certificate of Amendment to the Restated Certificate of Incorporation of the Registrant, dated June 12, 2001 (filed as Exhibit 3.2)
3.3(1)	Certificate of Amendment to the Restated Certificate of Incorporation of the Registrant, dated June 14, 2002 (filed as Exhibit 3.3)
3.4(2)	Certificate of Amendment to the Restated Certificate of Incorporation of the Registrant, dated March 30, 2004 (filed as Exhibit 4.10)
3.5(2)	Certificate of Amendment to the Restated Certificate of Incorporation of the Registrant, dated June 14, 2005 (filed as Exhibit 4.11)
3.6(1)	Certificate of Designation, Preferences, and Rights of Series A Junior Participating Preferred Stock of the Registrant, dated August 1, 2001 (filed as Exhibit 3.4)
3.7(3)	Certificate of Designations, Preferences and Rights of Series A Convertible Preferred Stock of the Registrant, dated March 31, 2003 (filed as Exhibit 3.1)
3.8(4)	Third Amended and Restated Bylaws of the Registrant (filed as Exhibit 3.1)
4.1(5)	Specimen certificate for share of common stock (filed as Exhibit 4.1)
4.2(6)	Rights Agreement, dated as of July 27, 2001, by and between the Registrant and American Stock Transfer & Trust Company, which includes the form of Certificate of Designation setting forth the terms of the Series A Junior Participating Preferred Stock, $0.001 par value, as Exhibit A, the form of rights certificate as Exhibit B and the summary of rights to purchase Series A Junior Participating Preferred Stock as Exhibit C. Pursuant to the Rights Agreement, printed rights certificates will not be mailed until after the Distribution Date (as defined in the Rights Agreement) (filed as Exhibit 4.1)
4.3(3)	First Amendment to Rights Agreement by and between the Registrant and American Stock Transfer & Trust Company, as rights agent, dated as of March 31, 2003 (filed as Exhibit 10.3)
10.1(7)††	1995 Stock Incentive Plan, as amended, including form of stock option certificate for incentive and non-statutory stock options (filed as Exhibit 10.1)
10.2(7)††	2000 Employee, Director, Consultant Stock Plan, including form of stock option agreement for non-statutory and incentive stock options (filed as Exhibit 10.2)
10.3(8)††	The Amended and Restated 2005 Stock Plan and the form of stock option agreement for non-statutory and incentive stock options (filed as Exhibits 99.1, 99.2 and 99.3, respectively)

Exhibit Number	Description
10.4(7)††	Executive Benefit Program, including Executive Deferred Compensation Plan and Executive Severance Plan (filed as Exhibit 10.3)
10.5(9)††	Lifecodes Corporation 1992 Employee Stock Option Plan (filed as Exhibit 99.2)
10.6(9)††	Lifecodes Corporation 1995 Employee Stock Option Plan (filed as Exhibit 99.3)
10.7(9)††	Lifecodes Corporation 1998 Stock Plan (filed as Exhibit 99.4)
10.8(10)†	Commercial Services Agreement effective September 17, 2001 between the Registrant and the Department of Environment, Food and Rural Affairs (filed as Exhibit 10.22)
10.9(10)†	Amended Patent Assignment and License Agreement dated July 7, 2003 by and between the Registrant, GeneCo Pty Ltd, Diatech Pty Ltd and Queensland University of Technology (filed as Exhibit 10.25)
10.10(10)†	Exclusive Patent License Agreement dated October 1, 2003 between the Registrant and Saint Louis University (filed as Exhibit 10.26)
10.11(10)†	Settlement Agreement dated August 6, 2002 between the Registrant and Saint Louis University (filed as Exhibit 10.27)
10.12(10)	Amendment No. 1 to Settlement Agreement dated October 1, 2003 between the Registrant and Saint Louis University (filed as Exhibit 10.28)
10.13(11)††	Director Compensation Policy, effective January 1, 2004 (filed as Exhibit 10.18)
10.14(12)	NWI Lease Agreement between the Registrant and NWI Warehouse Group L.P. dated February 15, 1996 for the facility located at 1400 Donelson Pike, Suite A-15, Nashville, Tennessee, 37217 (filed as Exhibit 10.1)
10.15(12)	Lease Agreement Amendment No. 1 between the Registrant and Duke-Weeks Realty L.P. dated January 23, 2001 for the facility located at 1400 Donelson Pike, Suite A-15, Nashville, Tennessee, 37217 (filed as Exhibit 10.2)
10.16(12)	Lease Agreement Amendment No. 2 between the Registrant and Duke Realty Limited Partnership dated August 8, 2005 for the facility located at 1400 Donelson Pike, Suite A-15, Nashville, Tennessee, 37217 (filed as Exhibit 10.3)
10.17(12)	Lease Agreement between the Registrant and Valwood Service Center I, Ltd. effective October 15, 2005 for the facility located at 13988 Diplomat Drive, Suite 100, Farmers Branch, Texas, 75234 (filed as Exhibit 10.4)
10.18(12)	Lease Agreement between the Registrant and Valwood Service Center I, Ltd. effective December 15, 2005 for the facility located at 13988 Diplomat Drive, Suite 100, Farmers Branch, Texas, 75234 (filed as Exhibit 10.5)
10.19(13)††	Employment Agreement dated March 8, 2006 between the Registrant and Thomas A. Bologna (filed as Exhibit 99.1)
10.20(14)	Letter Agreement by and between College Road Associates, Limited Partnership and the Registrant, dated January 18, 2005 (filed as Exhibit 10.27)
10.21(14)	Amendment No. 1 to Lease Agreement by and between Bellemead Development Corporation and the Registrant, dated November 1, 2005 (filed as Exhibit 10.28)
10.22(14)†	Letter Agreement and Product Loan Agreement between the Registrant and Applied Biosystems, dated January 5, 2006 (filed as Exhibit 10.30)

10.23(15)††	Addendum to Employment Agreement dated March 8, 2006 between the Registrant and Thomas A. Bologna
10.24(11)††	Employment Agreement dated as of October 5, 2007 between the Registrant and James F. Smith (filed as Exhibit 10.31)
10.25(11)††	Employment Agreement dated as of November 19, 2007 between the Registrant and William J. Thomas (filed as Exhibit 10.33)
10.26(16)††	Employment Agreement dated as of May 13, 2008 between the Registrant and Jeffrey S. Boschwitz (filed as Exhibit 10.1)
10.27	Lease Agreement dated December 15, 2009 between Duft Enterprises Corp. and the Registrant for the facility located at 635 Columbia St., New Westminster, British Columbia (filed herewith)
10.28††	Executive Compensation Program (filed herewith)
21.1	Subsidiaries of the Registrant (filed herewith)
23.1	Consent of Grant Thornton LLP
31.1	Certification of Principal Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
31.2	Certification of Principal Financial and Accounting Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
32.1	Certifications of Principal Executive Officer and Principal Financial and Accounting Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.

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† Portions of this Exhibit were omitted and have been filed separately with the Secretary of the SEC pursuant to the Registrant's application requesting confidential treatment thereof.

†† Management or compensatory plan.

(1) Previously filed with the SEC as Exhibits to, and incorporated herein by reference from, the Registrant's Quarterly Report on Form 10-Q for the period ended June 30, 2002 as filed with the SEC on August 14, 2002 (File No. 000-30267).

(2) Previously filed with the SEC as Exhibits to, and incorporated herein by reference from, the Registrant's registration statement on Form S-8 as filed with the SEC on June 29, 2005 (File No. 333-126227).

(3) Previously filed with the SEC as Exhibits to, and incorporated herein by reference from, the Registrant's Current Report on Form 8-K as filed with the SEC on April 2, 2003 (File No. 000-30267).

(4) Previously filed with the SEC as an Exhibit to, and incorporated herein by reference from, the Registrant's Current Report on Form 8-K as filed with the SEC on September 7, 2007 (File No. 000-30267).

(5) Previously filed with the SEC as an Exhibit to, and incorporated herein by reference from, the Registrant's Quarterly Report on Form 10-Q for the period ended September 30, 2001 as filed with the SEC on November 14, 2001 (File No. 000-30267).

(6) Previously filed with the SEC as an Exhibit to, and incorporated herein by reference from, the Registrant's registration statement on Form 8-A as filed with the SEC on August 3, 2001 (File No. 000-30267).

(7) Previously filed with the SEC as Exhibits to, and incorporated herein by reference from, the Registrant's registration statement on Form S-1, as amended, as originally filed with the SEC on February 18, 2000 (File No. 333-30774).

(8) Previously filed with the SEC as Exhibits to, and incorporated herein by reference from, the Registrant's Current Report on Form 8-K as filed with the SEC on June 14, 2005 (File No. 000-30267).

(9) Previously filed with the SEC as Exhibits to, and incorporated herein by reference from, the Registrant's registration statement on Form S-8 as filed with the SEC on January 15, 2002 (File No. 333-76744).

(11) Previously filed with the SEC as Exhibits to, and incorporated herein by reference from, the Registrant's Annual Report on Form 10-K for the year ended December 31, 2007 as filed with the SEC on March 12, 2008 (File No. 000-30267).
(12) Previously filed with the SEC as Exhibits to, and incorporated herein by reference from, the Registrant's Quarterly Report on Form 10-Q for the period ended September 30, 2005 as filed with the SEC on November 9, 2005 (File No. 000-30267).
(13) Previously filed with the SEC as an Exhibit to, and incorporated herein by reference from, the Registrant's Current Report on Form 8-K as filed with the SEC on March 9, 2006 (File No. 000-30267).
(14) Previously filed with the SEC as Exhibits to, and incorporated herein by reference from, the Registrant's Annual Report on Form 10-K for the year ended December 31, 2005 as filed with the SEC on May 24, 2006 (File No. 000-30267).
(15) Previously filed with the SEC as Exhibits to, and incorporated herein by reference from, the Registrant's Annual Report on Form 10-K for the year ended December 31, 2006 as filed with the SEC on March 15, 2007 (File No. 000-30267).
(16) Previously filed with the SEC as an Exhibit to, and incorporated herein by reference from, the Registrant's Quarterly Report on Form 10-Q for the period ended June 30, 2008 as filed with the SEC on August 1, 2008 (File No. 000-30267).

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.

ORCHID CELLMARK INC.

Date: March 12, 2010

By: /s/ THOMAS A. BOLOGNA
Thomas A. Bologna
President and Chief Executive Officer
(Principal Executive Officer)

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

Signatures	Title	Date
By: /s/ THOMAS A. BOLOGNA **Thomas A. Bologna**	President and Chief Executive Officer (Principal Executive Officer)	March 12, 2010
By: /s/ JAMES F. SMITH **James F. Smith**	Vice President and Chief Financial Officer (Principal Financial and Accounting Officer)	March 12, 2010
By: /s/ JAMES BEERY **James Beery**	Chairman of the Board	March 12, 2010
By: /s/ JAMES HART PH.D. **James Hart Ph.D.**	Director	March 12, 2010
By: /s/ SIDNEY M. HECHT, PH.D. **Sidney M. Hecht, Ph.D.**	Director	March 12, 2010
By: /s/ KENNETH D. NOONAN, PH.D. **Kenneth D. Noonan, Ph.D.**	Director	March 12, 2010
By: /s/ NICOLE S. WILLIAMS **Nicole S. Williams**	Director	March 12, 2010

Schedule II

ORCHID CELLMARK INC. AND SUBSIDIARIES

Valuation and Qualifying Accounts

Years ended December 31, 2009, 2008 and 2007
(In thousands)

Column A	Column B	Column C		Column D	Column E
Description	Balance at beginning of period	Charged to costs and expenses	Charged to other accounts (net) (1)	Deductions (2)	Balance at end of period
2009					
Allowance for doubtful accounts	$533	$188	$—	$324	$397
2008					
Allowance for doubtful accounts	$799	$ (36)	$—	$230	$533
2007					
Allowance for doubtful accounts	$822	$ 60	$ 26	$109	$799

(1) Consists of the value of the ReliaGene allowance for doubtful accounts at the acquisition date.
(2) Deductions primarily consist of accounts receivable write-offs and reserve adjustments.

Exhibit 31.1

CERTIFICATIONS UNDER SECTION 302

I, Thomas A. Bologna, certify that:

1. I have reviewed this annual report on Form 10-K of Orchid Cellmark Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officers and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officers and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 12, 2010

/s/ THOMAS A. BOLOGNA

Thomas A. Bologna
President and Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATIONS UNDER SECTION 302

I, James F. Smith, certify that:

1. I have reviewed this annual report on Form 10-K of Orchid Cellmark Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officers and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officers and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors(or persons performing the equivalent functions):

a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 12, 2010

/S/ JAMES F. SMITH

James F. Smith
Vice President and Chief Financial Officer
(Principal Financial and Accounting Officer)

Exhibit 32.1

CERTIFICATIONS UNDER SECTION 906

Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (subsections (a) and (b) of Section 1350, Chapter 63 of Title 18, United States Code), each of the undersigned officers of Orchid Cellmark Inc., a Delaware corporation (the "Company"), does hereby certify, to such officer's knowledge, that:

The Annual Report for the year ended December 31, 2009 (the "Form 10-K") of the Company fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, and the information contained in the Form 10-K fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: March 12, 2010

/s/ THOMAS A. BOLOGNA

Thomas A. Bologna
President and Chief Executive Officer
(Principal Executive Officer)

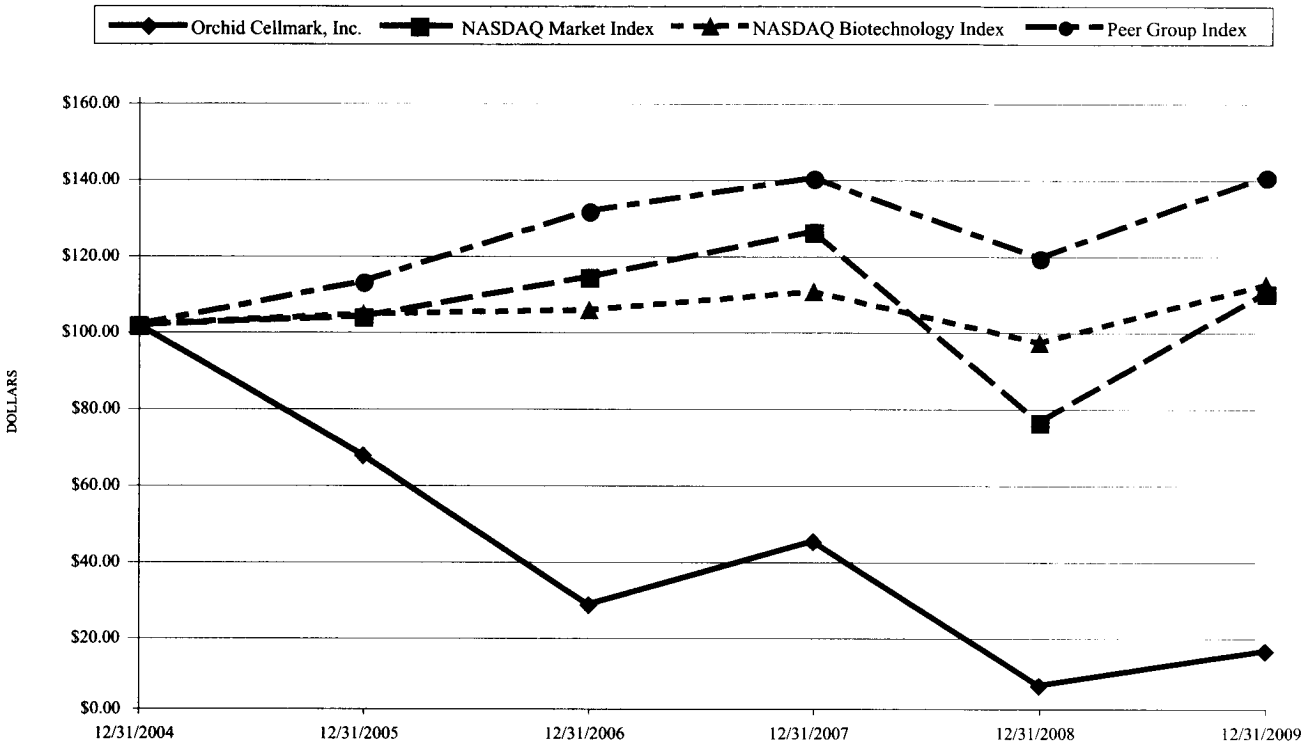
Dated: March 12, 2010

/s/ JAMES F. SMITH

James F. Smith
Vice President and Chief Financial Officer
(Principal Financial and Accounting Officer)

A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

COMPARISON OF CUMULATIVE TOTAL RETURN



ASSUMES $100 INVESTED ON JAN. 01, 2005
ASSUMES DIVIDEND REINVESTED
FISCAL YEAR ENDING DEC. 31, 2009

Comparison of cumulative total return of one or more companies, peer groups, industry indexes, and/or broad markets

	Fiscal Year Ending					
Company/Index/Market	12/31/2004	12/31/2005	12/31/2006	12/31/2007	12/31/2008	12/31/2009
Orchid Cellmark Inc.	$100.00	$ 66.09	$ 26.96	$ 43.48	$ 5.83	$ 14.87
NASDAQ Market Index	$100.00	$102.20	$112.68	$124.57	$ 74.71	$108.56
NASDAQ Biotechnology Index	$100.00	$102.88	$103.98	$108.81	$ 95.42	$110.65
Peer Group Index	$100.00	$111.46	$129.96	$138.63	$117.68	$139.02

The Customer Selected Stock List is made up of the following securities:
Bio-Reference Labs, Inc.
Laboratory Corporation of America Holdings
Quest Diagnostics, Inc.
VCA Antech, Inc.

Corporate Information

Board of Directors

James Beery
Chairman, Orchid Cellmark Inc.
Senior of Counsel
Covington & Burling

Thomas A. Bologna
President and Chief Executive Officer
Orchid Cellmark Inc.

Bruce D. Dalziel
Chief Financial Officer
Medidata Solutions

James M. Hart, Ph.D.
Former Commissioner of the
City of London Police Force

Sidney M. Hecht, Ph.D.
Director, Center for Bioenergetics
in the Biodesign Institute
and Professor of Chemistry,
Arizona State University

Kenneth D. Noonan, Ph.D.
Principal
T/K Associates, LLC

Nicole S. Williams
Retired, Chief Financial Officer
Abraxis BioScience Inc.

Officers

Thomas A. Bologna*
President and Chief Executive Officer

Jeffrey S. Boschwitz*
Vice President,
North America Marketing and Sales

James F. Smith*
Vice President and Chief Financial Officer

William J. Thomas*
Vice President and General Counsel

**Executive Officer*

Corporate Headquarters

4390 U.S. Route One
Princeton, NJ 08540
(609) 750-2200

European Headquarters

Orchid Cellmark Limited
Abingdon Business Park
16 Blacklands Way
Abingdon, Oxfordshire
OX14 1DY
(44) 1235 535090

Stock Listing

The Company's common stock trades on the NASDAQ Global Market under the symbol ORCH

Annual Meeting

The Company's Annual Meeting of Stockholders will be held on November 9, 2010 at 10:00 am at Wyndham Princeton Forrestal Hotel, 900 Scudders Mill Road, Plainsboro, NJ 08536.

Investor Relations

For additional information, please contact our Investor Relations Department at (609) 750-2324 or ir@orchid.com

Independent Auditors

Grant Thornton LLP
New York, NY

Transfer Agent

American Stock Transfer & Trust
59 Maiden Lane
Plaza Level
New York, NY 10038
(800) 937-5449

Corporate Web SIte

www.orchidcellmark.com

Note to Investors

Except for any historical information presented herein, matters presented in this document are forward-looking statements within the meaning of the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995. These forward-looking statements are subject to risk and uncertainties that may cause results to differ materially. Please also see, "Forward-Looking Statements," for more details. Factors that could cause or contribute to such differences include, but are not limited to, those discussed in the "Risk Factors" section included in the Company's Annual Report on Form 10-K for the year ended December 31, 2009 and other documents filed with the Securities and Exchange Commission.

ORCHID CELLMARK

DNA testing trusted worldwide.

CORPORATE HEADQUARTERS
4390 U.S. Route One
Princeton, NJ 08540
(609) 750-2200