COMPLETE GENOMICS INC
Form 10-K
March 09, 2012
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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 10-K

(Mark One)

x **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the fiscal year ended December 31, 2011

December 31, 2011

OR

¨ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the transition period from to

Commission file number: 001-34939

Complete Genomics, Inc.

(Exact name of registrant as specified in its charter)

Delaware	20-3226545
(State or Other Jurisdiction of Incorporation or Organization)	(I.R.S. Employer Identification No.)
2071 Stierlin Court Mountain View, California	94043
(Address of Principal Executive Offices)	(Zip Code)

(650) 943-2800

(Registrant s Telephone Number, Including Area Code)

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

Title of Each Class	Name of Each Exchange on Which Registered
Common Stock, $0.001 par value	The NASDAQ Stock Market LLC

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

None

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

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

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

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

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K 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 the definitions of large accelerated filer, accelerated filer and smaller reporting company in Rule 12b-2 of the Exchange Act.

Large accelerated filer ¨	Accelerated filer x
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 x

The aggregate market value of the registrant s voting stock held by non-affiliates at June 30, 2011, the last business day of the Registrant s most recently completed second fiscal quarter, was approximately $305.5 million. The number of shares held by non-affiliates is based on Schedules 13D and 13G filed by certain stockholders for the year ended December 31, 2011 and subsequent reports, if any, filed by certain stockholders pursuant to Section 16 of the Securities Exchange Act of 1934, as amended. Exclusion of such shares should not be construed to indicate that any such person possesses the power, direct or indirect, to direct or cause the direction of the management or policies of the registrant or that such person is controlled by or under common control with the registrant.

As of February 29, 2012, the number of outstanding shares of the registrant s common stock, par value $0.001 per share, was 33,418,720.

DOCUMENTS INCORPORATED BY REFERENCE

Certain sections of the registrant s definitive Proxy Statement for the 2012 Annual Meeting of Stockholders to be filed with the Securities and Exchange Commission pursuant to Rule 14A not later than 120 days after the end of this fiscal year covered by this Form 10-K are incorporated by reference into Part III of this Form 10-K.

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COMPLETE GENOMICS, INC.

FORM 10-K FOR THE FISCAL YEAR ENDED DECEMBER 31, 2011

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PART I

This Annual Report on Form 10-K contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended (the Exchange Act), which are subject to the safe harbor created by those sections. Forward-looking statements are based on our management s beliefs and assumptions and on information currently available to our management. All statements other than statements of historical factors are forward-looking statements for purposes of these provisions. In some cases you can identify forward-looking statements by terms such as may, will, should, could, would, expect, plan, anticipate, believe, estimate, project, predict, and potential, and similar expressions intended to identify forward-looking statements. Such forward-looking statements are subject to risks, uncertainties and other important factors that could cause actual results and the timing of certain events to differ materially from future results expressed or implied by such forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those identified below, and those discussed in the section titled Risk Factors in this report. Furthermore, such forward-looking statements speak only as of the date of this report. Except as required by law, we undertake no obligation to update any forward-looking statements to reflect events or circumstances after the date of such statements.

ITEM 1. BUSINESS

Overview

We are a life sciences company that has developed and commercialized an innovative DNA sequencing platform. Our goal is to become the preferred solution for whole human genome sequencing and analysis. Our Complete Genomics Analysis Platform, or CGA™ Platform, combines our proprietary human genome sequencing technology with our advanced informatics and data management software and our innovative, end-to-end, outsourced service model to provide our customers with data that is immediately ready to be used for genome-based research. We believe that our solution can provide academic, biopharmaceutical and translational medicine researchers with whole human genome data and analysis at an unprecedented combination of quality, cost and scale without requiring them to invest in in-house sequencing instruments, high-performance computing resources and specialized personnel. By removing these constraints and broadly enabling researchers to conduct large-scale whole human genome studies, we believe that our solution has the potential to significantly advance medical research and expand understanding of the basis, treatment and prevention of complex diseases.

We believe that our whole human genome sequencing technology, which is based on our proprietary DNA arrays and ligation-based read technology provides a superior combination of quality, costs and scale when compared to existing commercially available whole human genome sequencing platforms. In the DNA sequencing industry, whole human genome sequencing is generally deemed to be coverage of at least 90% of the nucleotides in the genome. Because we have optimized our technology platform and our operations for the unique requirements of high-throughput whole human genome sequencing, we are able to achieve accuracy levels in excess of 99.999% at a total cost that is significantly less than the total cost of purchasing and using commercially available DNA sequencing instruments and information process technology and then performing all the required sequence data assembly and analysis. We believe that we will be able to further improve our accuracy levels and reduce the total cost of sequencing and analysis, enabling us to maintain significant competitive advantages over the next several years. Because our technology resides only in our centralized facilities, we can quickly and easily implement enhancements and provide their benefits to our entire customer base. Our goal is to be the first company to sequence and analyze high-quality whole human genomes, at scale, for a total cost of under $1,000 per genome.

From the earliest days of the field of genomic sequencing to the present, companies and organizations that have achieved sequencing milestones in quality, cost and scale have immediately announced and/or published these sequencing results. We regularly and actively monitor publications and have compared the parameters of our sequencing process and the sequencing results of competitive commercially available technologies announced in these various publications. We are currently unaware of any scientific publications by competitors publicly

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announcing superior sequencing results. Based on the above, we believe that our complete human genome sequencing technology provides a superior combination of quality, cost and scale when compared to existing commercially available complete genome sequencing methods, when taking into consideration the total cost of purchasing, operating and maintaining the instruments and information systems necessary for complete human genome sequencing.

While our competitors primarily sell DNA sequencing instruments and reagents that produce raw sequenced data, requiring their customers to invest significant additional resources to process that raw data into a form usable for research, we offer our customers an end-to-end, outsourced solution that delivers research-ready genomic data. As the cost of complete human genome sequencing continues to decline, we believe the basis of competition in our industry will shift from the cost of sequencing to the value of the entire sequencing solution, including time to delivery, data accuracy and data management solutions. We believe that our integrated advanced informatics and data management services will emerge as a key competitive advantage as this shift occurs.

Our genome sequencing center, which began commercial operations in May 2010, combines a high-throughput sample preparation facility, a collection of our proprietary high-throughput sequencing instruments and a large-scale data center. Our customers ship us their samples via common carrier services such as Federal Express and United Parcel Service. We then sequence and analyze these samples and provide our customers with finished, research-ready data, enabling them to focus exclusively on their single highest priority, discovery.

In 2011, we sequenced over 3,000 whole human genomes, including more than 600 in the fourth quarter of 2011, and had an order backlog at December 31, 2011 of approximately 5,800 genomes. Our customers include some of the leading academic research centers, government research centers, biopharmaceutical companies, and healthcare providers. At present, our facility has the capacity to sequence and analyze approximately 1,000 whole human genomes per month at 40x coverage. We expect this capacity to approximately double by year-end 2012 as we deploy additional sequencers and increase the throughput of our facility through process improvements. In future years, we plan to construct additional genome centers in the United States and other international strategic markets to accommodate an expected growing global demand for whole human genome sequencing on a large scale.

For the genomes shipped in the fourth quarter of 2011, we sequenced an average of over 98% of the whole human genome at 10-fold or greater coverage. In addition, our software makes high confidence calls of an average of over 97% of the genome and over 96% of the exome.

Public Offerings

In November 2010, we closed an initial public offering of our common stock and sold 6,000,000 shares of our common stock at a public offering price of $9.00 per share. We received gross proceeds of approximately $54.0 million from this transaction, before underwriting discounts and commissions and offering expenses. On June 1, 2011, we completed an underwritten public offering of 6,325,000 shares of our common stock at $12.50 per share. We received gross proceeds of approximately $79.1 million from this transaction, before underwriting discounts and commissions and offering expenses.

Market Overview

Background

Every organism has a genome that contains the full set of biological instructions required to build and maintain a living example of that organism. The information contained in a genome is stored, or encoded, in deoxyribonucleic acid, or DNA, a nucleic acid that is found in each cell of the organism. DNA is divided into discrete units called genes, which carry specific information necessary to perform a particular biological function, such as instructions for making proteins. The chemical building blocks that make up each gene are the

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molecules adenine, cytosine, guanine and thymine, labeled as A, C, G and T, respectively, which are known as nucleotide bases. Human DNA has approximately three billion nucleotide bases, and their precise order is commonly known as the DNA or genetic sequence.

Studying how genes and proteins differ between species and among individuals within a species, or genetic variations, helps scientists determine their functions and roles in health and disease and, we expect, will continue to drive advancements in medical research and diagnostics.

The primary genetic analysis methods traditionally used by genetic researchers fall into three categories: DNA sequencing, genotyping and gene expression analysis. DNA sequencing is the process of determining the exact order, or sequence, of the individual nucleotides in a DNA strand so that this information can be correlated to the genetic activity influenced by that segment of DNA. Genotyping is the process of examining certain known mutations or variations in the DNA sequence of genes to determine whether the particular variant can be associated with a specific disease susceptibility or drug response. Gene expression analysis is the process of examining the molecules that are produced when a gene is activated, or expressed, to determine whether a particular gene is expressed in a specific biological tissue.

The Importance of Whole Human Genome Sequencing

One of the most difficult challenges facing the genetic research and analysis industry is improving our understanding of how genes contribute to diseases that have a complex pattern of inheritance. For many diseases, multiple genes each make a subtle contribution to a person s predisposition or susceptibility to a disease or response to a drug treatment protocol. Accordingly, we believe that unraveling this complex network will be critical to understanding human health and disease. We believe that sequencing whole human genomes is the most comprehensive and accurate method by which to achieve these objectives and improve our understanding of human disease. However, the cost and complexity associated with whole human genome sequencing have been prohibitively high for researchers and have slowed our progress in understanding the genetic underpinnings of disease.

Due to these limitations, many researchers use an alternative approach in which a small portion of the genome, referred to as the exome, is targeted, enriched and sequenced. This process, known as exome sequencing, requires less than 5% of the sequencing compared to sequencing required for a whole genome. However, important areas of the genome lie outside of the exome, such as the promoter regions that control gene expression and other conserved regions of the genome that are believed to perform regulatory functions. Moreover, current exome selection technologies are inefficient. As a result, exome sequencing typically yields a lower percentage of the exome than can be obtained by whole human genome sequencing. Over the coming years, we believe the combination of falling cost of sequencing, advancements in analysis of whole human genomes and the rapidly growing amount of data regarding and understanding of whole human genomes will continue to drive the adoption of whole human genomes sequencing.

Whole Human Genome Sequencing Market

The market for whole human genome sequencing can broadly be broken down into three areas: basic research, translational research, and clinical applications. Basic research, typically conducted by academic centers, medical research centers, biopharmaceutical companies and government institutions, is aimed at furthering our understanding of how genetic variations may be implicated in disease states. Translational research studies, typically conducted by healthcare organizations such as hospitals and/or payor/provider organizations, are aimed at identifying how best to use the knowledge of the genome to improve patient healthcare and achieve cost savings in the delivery of healthcare. Clinical applications are targeted at physicians to enable them to make specific treatment decisions for individuals based upon their genetic make-up and disease state. We currently participate in the basic research and translational research markets. In addition, we are beginning the process of seeking Clinical Laboratory Improvement Amendments (CLIA) certification and developing laboratory developed tests (LDT) that will be required in order to meet the needs of the clinical applications market.

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Complete Genomics Solution

Although other sequencing technologies have led to dramatic reductions in cost and improvements in quality and throughput for whole human genome sequencing, they were designed as general-purpose instruments for sequencing the DNA or RNA of plants, animals, bacteria and viruses. More specifically, these technologies were not designed solely for sequencing large numbers of whole human genomes.

We have developed a novel approach focused on whole human genome sequencing. We combine our proprietary human genome sequencing technology, which achieves accuracy levels in excess of 99.999%, with our advanced informatics and data management software and our innovative, end-to-end service model, to deliver research-ready genomic data at a total cost that is significantly less than the total cost of purchasing and using commercially available DNA sequencing instruments and the required information management hardware and software. We believe this novel outsourced solution overcomes the key limitations of other sequencing technologies and addresses the unmet needs of the whole human genome research market.

Proprietary Sequencing Technology

There are two primary components of our proprietary human genome sequencing technology: DNA nanoball, or DNB, arrays and combinatorial probe-anchor ligation, or cPAL, reads. Our patterned DNB arrays, due to their small size and biochemical characteristics, enable us to pack DNA very efficiently on a silicon chip. We have developed a proprietary process that causes the DNA to adhere to desired spots on the chip, while conversely preventing the DNA from adhering to the area between these spots. This enables us to affix individual particles of DNA to over 90% of these spots. In addition, we have developed a highly accurate cPAL read technology, which enables us to read the DNA fragments efficiently using small concentrations of low-cost reagents while retaining extremely high single-read accuracy.

We believe this unique combination of our proprietary DNB and cPAL technologies is superior in both accuracy and cost to other commercially available approaches and provides us with significant competitive advantages. As reported in the January 2010 edition of *Science*, we sequenced a whole human genome with a consensus accuracy of 99.999% and a consumables cost of approximately $1,800. To our knowledge, based on our review of scientific publications in the genome sequencing field, there are no commercially available technologies that have achieved the accuracy comparable to our sequencing results. Our accuracy was further validated by the Institute for Systems Biology, or ISB, as published in *Science Express* in March 2010. We have identified and are developing additional performance enhancements to our core technologies that we believe will enable us to maintain a significant competitive advantage in terms of our combination of quality, cost and scale.

Advanced Informatics and Data Management Software

Sequencing whole human genomes generates substantial amounts of data that must be managed, stored and analyzed. While many users of instrument-based sequencing systems have historically conducted their own in-house data analysis on a limited number of genomes, many of these users lack the computing, storage and network bandwidth necessary to manage the massive data sets generated by larger scale whole human genome studies. In response to this need by our customers, we have built a genomic data processing facility with computing infrastructure for managing both small- and large-scale genomic sequencing projects.

There are two major components of our data management solution: assembly software and analysis software. Assembly is the process of using computers to organize all of the overlapping 70-base nucleotide sequences to reconstruct the complete human genome. Our proprietary assembly software uses advanced data analysis algorithms and statistical modeling techniques to make high confidence calls of an average of over 97% of the genome and over 96% of the exome from approximately two billion 70-base reads. After assembling the genomic data, we use our analysis software to identify and annotate key differences, or variants, in each genome.

By using our analytical tools and data management software, our customers can significantly reduce their investments in computing infrastructure. Our customers are provided with reliable access to assembled and

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annotated sequence data in multiple formats to ease data sharing and comparative analyses. In addition, our data storage options provide flexibility and allow customers to customize their data management strategy based on their particular business and scientific requirements. We have also developed a suite of open source analytical tools, called CGA™ Tools, designed to enable our customers to rapidly analyze the data we generate from their samples. As the reagent cost of sequencing declines, we believe that the cost and complexity of data analysis and management will emerge as the primary limiting factor for conducting whole human genome analysis.

Innovative, End-to-End, Outsourced Solution

While our competitors primarily sell DNA sequencing instruments and reagents that produce raw sequenced data, requiring their customers to invest significant additional resources to process that raw data into a form usable for research, we offer our customers an end-to-end, outsourced solution that delivers research-ready genomic data. Our genome sequencing center combines a high-throughput sample preparation facility, a collection of our proprietary high-throughput sequencing instruments and a large-scale data center. Our customers ship us their samples via common carrier services such as Federal Express and United Parcel Service. We then sequence and analyze these samples and provide our customers with finished, research-ready genomic data, enabling them to focus exclusively on their single highest priority, discovery.

Our customers are not required to purchase expensive sequencing instruments and high-performance computing resources to sequence and analyze large sets of whole human genomes. Our outsourced service model enables our customers to offload to us the complex processes of sample preparation, sequencing, computing and data storage and management. We believe our services will expand the potential addressable market by enabling a broad base of researchers who may lack sufficient capital and the specialized personnel necessary to build and operate a sequencing laboratory, or who have historically been constrained by the high total cost of sequencing, to conduct large-scale whole human genome studies.

Customer Benefits

We believe our end-to-end solution provides the following advantages to our customers:

High-Quality Data. Our technology delivers what we believe is the industry s highest accuracy whole human genome data.

Cost-Savings. Our customers are not required to purchase expensive sequencing instruments and high-performance computing resources or hire the necessary specialized personnel to sequence and analyze large sets of whole human genome data.

Speed at Scale. Our customers can often complete their large-scale projects more quickly by using our services than by purchasing and operating commercially available sequencing instruments.

Ease of Use. We believe our customers can avoid the difficulty and time-consuming process of purchasing and operating their own sequencing instruments and can outsource the entire process to us, from sample preparation to delivery of research-ready data.

Operational Flexibility. By outsourcing their large-scale whole human genome sequencing projects to us, our customers can free up the capacity of in-house instruments to run smaller or more targeted sequencing projects and applications.

Technological Flexibility. As DNA sequencing technology improves, our customers have available to them the latest technology that we have developed, and they avoid the risk of their expensive instruments becoming technologically obsolete.

Enables Customers to Focus on Discovery. Outsourcing offloads the operational burdens of managing large-scale genome sequencing projects and enables our customers to focus their resources on research, which can reduce the time to discovery.

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Customers and Applications

Customers

We have more than 125 past and current customers, including the following:

Academic/Government	*BioPharma*	*Translational Medicine*
Academic Medical Center University of Amsterdam	Eli Lilly and Company	Inova Health System
Broad Institute of MITand Harvard	Pfizer	Brigham & Women s Hospital
SAIC-Frederick, Inc., National Cancer Institute	Genentech	Scripps Translational Science Institute
Stanford University		Children s Hospital Boston
Flanders Institute for Biotechnology (VIB)		Erasmus Medical Centre in Rotterdam, the Netherlands
Institute for Systems Biology		The Mayo Clinic
Ernest Gallo Clinic and Research Center at UCSF		

Selected Customer Examples

SAIC-Frederick, Inc., National Cancer Institute Pediatric Cancer Study

Our project with SAIC-Frederick, Inc., the prime contractor for the National Cancer Institute s research and development facility in Frederick, Maryland, involves sequencing and analyzing more than 600 tumor-normal pairs, comprising over 1,200 whole human genomes, to identify patterns relating to the genesis of cancerous tumors in children. This study may potentially lead to improved diagnosis and treatment of pediatric cancers. This project forms part of the National Cancer Institute s Therapeutically Applicable Research to Generate Effective Treatments, or TARGET, Initiative. TARGET seeks to use genomic technologies to rapidly identify valid therapeutic targets in childhood cancers so that new, more effective treatments can be developed. It is currently focusing on five childhood cancers: acute lymphoblastic leukemia, acute myeloid leukemia, neuroblastoma, osteosarcoma and Wilms tumor.

Inova Health System Pre-term Delivery Study

Our project with the Inova Health System, a not-for-profit- health care system based in Northern Virginia, involves sequencing 1,500 genomes from 500 babies and their parents. The goal of this project is to identify prognostic, diagnostic and therapeutic targets for pre-term delivery and potentially other obstetrics associated abnormalities. The study may also help provide the framework to enable Inova to begin to use genomic data to customize care within Inova s hospital network. Data from Inova Health System s electronic medical record system will support outcomes-based research on this cohort.

Scripps Health *Wellderly Study*

Our collaboration with Scripps Health involves sequencing 1,000 individuals who are at least 80 years old and free from major diseases and long-term medications. The purpose of the study is twofold - first, to uncover the genetic underpinnings of healthy aging and second, healthy older individuals are ideal controls for genetic studies of late onset diseases. In exchange for sequencing this cohort at our expense, we will become the exclusive commercial provider of this dataset, in the form of the Wellderly Genomic Reference Resource.

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Mayo Clinic Translational Genomics

Our project with the Mayo Clinic, an nonprofit worldwide leader in medical care, research, and education, involves sequencing the genetic information from consenting patients and may be used to optimize medical care in a variety of disciplines, including cancer diagnosis and treatment, drug therapy, disease prevention, and many others. This information could also be used by doctors to advise patients about lifestyle changes that could help prevent or delay disease onset. Through this initiative, Mayo Clinic will develop best practices for using genetic information to guide patient care.

Applications

Potential applications for our whole human genome sequencing service include:

Cancer Research. Researchers are sequencing cancer genomes and comparing them to normal genomes, which are referred to as tumor-normal pairs, to identify the mutations in cancer genomes. We believe understanding these mutations will guide development of new cancer therapeutics and diagnostics and enable doctors to select the best course of therapy based on the specific mutations found in a tumor.

Mendelian Disease Research. There are thousands of Mendelian inherited diseases that have been found to run in families, and are accordingly likely to have a significant genetic component. However, the genetic cause of most of these diseases is currently unknown. By sequencing the whole genomes of the affected families, we believe the genetic causes of these Mendelian diseases can be discovered, which could lead to the development of novel diagnostics and therapeutics.

Rare Variant Disease Research. Diseases such as central nervous system disorders, cardiac disease, certain metabolic disorders, and other diseases that appear broadly in the population are thought to be caused by rare variants. Large-scale studies of affected individuals may help to identify the disrupted pathways and lead to the development of novel diagnostics and therapeutics.

Translational Research. We believe that over time, healthcare systems will use genomic data to direct an individual s medical care. Leading institutions are beginning to conduct research aimed at identifying how best to use the knowledge of the genome to improve patient healthcare and achieve cost savings in the delivery of healthcare.

Clinical Trial Optimization. We believe that selecting or stratifying patients on the basis of their genetic profiles could enable the preferential admission of high responders into a clinical trial. This stratification could enable the trial to reach its conclusion with fewer patients and lower costs and result in faster clinical trials and drug commercialization.

Companion Diagnostic Discovery. We believe that therapeutics that are not first-line treatments for the general population may be elevated to first-line treatments or used in combination therapies for subsets of the population that share a common genetic profile. Whole human genome studies may unlock new market opportunities for these therapies or combination therapies.

In addition to these research applications, we expect future clinical applications to include:

Idiopathic Disease Pediatric Diagnostics. We believe that sequencing the whole genome of idiopathic sick children, or children the cause of whose sickness is unknown, could identify genomic mutations as well as complex interaction pathways that cannot be discovered by only analyzing selected areas of the genome. This approach may result in more rapid diagnosis and better patient care.

Cancer Pathology. We believe that whole human genome sequencing will be the most reliable and economic way to analyze complex cancer genomes that involve large and unpredictable structural changes. In the United Sates alone, there are approximately 1.5 million new cases of cancer diagnosed each year according to the National Cancer Institute.

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Universal Diagnostics. As medical records technology and public health policy advance, we believe that large numbers of people will have their whole human genomes sequenced and stored for use by their physicians in managing their health care decisions.

Our Strategy

Our goal is to improve human health by providing genomic information to understand, prevent, diagnose and treat diseases and conditions. We intend to become the preferred solution for whole human genome sequencing and analysis by:

Continuing to Deliver the Highest Quality Genomic Data and Analysis at a Low Total Cost. By continuing to deliver the highest quality research-ready data and by enabling our customers to avoid the cost, complexity and risks associated with purchasing and operating the instruments and computing resources required to undertake whole human genome sequencing, our goal is to become the preferred solution for our customers.

Maintaining and Strengthening our Technology. We plan to continue to conduct research and product development activities to further improve quality, reduce costs, increase throughput and reduce our turnaround time. We plan to further develop the biochemistry, informatics, instrumentation and software that we believe together make up the industry s most robust solution. We will also seek to continually improve our operational processes and analysis software.

Capitalizing on our Scalable Model. Due to the highly scalable nature of our service model, we believe we are well positioned to serve customers looking to sequence a small number of genomes as well as customers who are looking to rapidly sequence a very large number of genomes.

Establishing Ourselves as the Leader in Outsourced Whole Human Genome Sequencing. We intend to continue to focus exclusively on whole human genome sequencing. We believe that this focus will put us in a strong position to become the preferred platform for whole human genome sequencing.

Developing Clinical Applications for the Use of our Technology. While our current focus is on providing whole human genome solutions primarily to academic, biopharmaceutical, and translational medicine researchers, we expect to develop clinical applications for whole genome sequencing for use in idiopathic pediatric disease diagnosis, cancer pathology, and ultimately, as a universal diagnostic.

Establishing Strategic Partnerships and Collaborations. We expect to establish strategic partnerships and collaborations with commercial and research organizations to leverage our genome sequencing technology with the strengths of these organizations to further develop and expand the applications for our sequencing technology.

Expanding Globally to Increase Capacity and Reach New Markets. We expect to enter into partnership agreements with domestic and international organizations to build additional genome sequencing centers around the world. These genome sequencing centers will increase our sequencing capacity, provide us with improved access to global markets and expand our revenue opportunities.

Our Human Genome Sequencing Platform Technology

Our proprietary human genome sequencing platform consists of three major technologies: our proprietary human genome sequencing technology, our high-throughput process automation technology and our complete data management solution.

Proprietary Sequencing Technology

There are two primary components of our proprietary human genome sequencing technology: DNB arrays and cPAL reads.

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DNB Arrays

We have developed a novel approach to preparing fragmented DNA for reading on our sequencing instruments. Using a biochemical process for copying DNA, we reproduce each DNA fragment in a manner that connects all of the copies together in a head-to-tail configuration, forming a long single molecule of connected nucleotides. We have developed proprietary techniques for causing each long single molecule to consolidate, or ball up, into a small particle of DNA that we call a DNB. The DNBs are approximately 200-300 nanometers in average diameter. Each DNB contains hundreds of copies of the 70 bases of DNA we are seeking to read in each fragment.

The small size and biochemical characteristics of our DNBs enable us to pack them together very tightly on a silicon chip. We use established photolithography processes developed in the semiconductor industry to create a silicon chip that has a grid pattern of small spots. The small spots are approximately 300 nanometers in diameter, and the center of each spot is currently separated by approximately 600 nanometers from neighboring spots. We have developed a proprietary process that causes the DNA to adhere to these spots, which we refer to as sticky spots, while conversely preventing the DNA from adhering to the area between the sticky spots. When a solution of DNBs is spread across the chip, the DNBs adhere to the sticky spots, with one DNB per spot. We have also developed proprietary techniques to fill over 90% of the sticky spots with exactly one DNB. We refer to the silicon chip filled with DNA as a DNA nanoball array.

cPAL Read

To read the sequence of nucleotides in each DNB, we have developed a highly accurate proprietary ligase-based DNA reading technology called cPAL. Our cPAL technology uses the naturally occurring ligase enzyme, which accurately distinguishes between the A, C, T and G nucleotides, to attach fluorescent molecules that light up with a different color for each of the four nucleotides. By imaging the color lights of a DNB array and decoding the color images, we can determine the sequence of nucleotides in each DNB. A key characteristic of our cPAL technology is its high accuracy of reading very short five-base sequences of DNA. We have developed a proprietary technique for preparing the DNA fragments so that we can read seven five-base segments from each of the two ends of the DNA fragment for a total of 70 bases from each fragment. We have also developed proprietary software that generally reconstructs over 90% of the whole human genomes from these 70 base reads from each fragment.

We believe that the advantages of our DNB arrays and our cPAL technology over other commercially available DNA sequencing technologies include:

High Accuracy. Our cPAL technology has very high single-read accuracy due to the intrinsic nature (high accuracy) of the ligase enzyme. By reading each nucleotide multiple times, we achieve a consensus accuracy rate in excess of 99.999%.

No Accumulation of Errors. Many other DNA sequencing methods employ sequential processes that cause errors to accumulate as each successive nucleotide is read, which results in a higher potential error rate for each successive nucleotide. Our cPAL technology reads each nucleotide independently, and as a result there is no accumulation of errors, which enables us to read successive bases without increasing our error rate.

Low Reagent Cost. Our cPAL technology uses low concentrations of low-cost commodity reagents. Our DNB arrays achieve a very high density of DNA on each array, which reduces the quantity, or volume, of reagents we use compared to other DNA array approaches. The combination of low concentration of low-cost reagents and smaller quantities results in lower reagent costs compared to other commercially available DNA sequencing methods.

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High Throughput Process Automation

There are five major components of our high-throughput process automation technology: high-throughput sample preparation, high-throughput sequencing instruments, high-performance computing infrastructure, workflow automation software and service delivery technology.

High-Throughput Sample Preparation

Our high-throughput sample preparation technology consists of step-by-step protocols for preparing DNA for sequencing. We prepare genome samples in 96-well plates (each plate contains known, or reference, DNA that we use to monitor the quality of the sample preparation process). Our sample preparation capacity can be scaled by adding additional sample preparation instruments and staff as needed. We currently have a number of development activities in progress to improve the step-by-step protocols and laboratory automation, with the objective of increased efficiency and lower cost.

High-Throughput Sequencing Instruments

Our sequencing instruments consist of a fluidics robot that pipettes multiple types of chemical reagents (including fluorescent molecules) onto the flow slides and an imaging system that records images of the fluorescent molecules attached to the DNA. Our current commercial instrument processes 18 flow slides at a time. The 18 flow slides are robotically moved back-and-forth from the fluidics robot to the imaging system. While one flow slide is being imaged, the other 17 flow slides are prepared with reagents or waiting for the imager to become available. A sequencing run takes approximately 11 days. To sequence a whole human genome at an average redundancy of 40 times requires approximately 150 gigabases of usable data. Currently, our sequencing instruments can generate over 100 gigabases of usable data from each flow slide in an 11-day run.

We are currently developing our next generation sequencing instruments. We expect that these new instruments, when deployed, will use larger dimension silicon chips that will enable increased throughput and reduced run time. Our initial goal for these instruments will be to process 48 whole human genomes during an eight day run.

High-Performance Computing Infrastructure

We have built a genomic data processing facility that currently consists of approximately 7,500 core processors and 4 petabytes of high-speed disk storage. Our sequencing instruments are connected to our data center by a network connection that transfers data at a rate of 30 gigabits per second. Our data center currently has the capacity to perform all of the required computation for approximately 1,000 genomes per month. We plan to expand our data center as needed, and we expect to make continued enhancements to our software to further increase the efficiency of our data center.

Workflow Automation Software

Our workflow automation software tracks each sample from arrival at our facility to delivery of research-ready data to the customer. Sample tracking is accomplished through bar codes. Each 96-well plate of samples has a bar code, and each flow slide has a bar code. The instruments that process plates and flow slides have bar code readers attached to them. User interfaces to our workflow automation software allow us to track the progress of each sample throughout sample preparation, sequencing and computing. We are also developing a web-based customer portal to enable customers to track their projects real-time throughout the sequencing process.

Service Delivery Technology

Our cloud-based data delivery system is based on our vendor relationship with Amazon Web Services, or AWS. We upload our customers finished genomic data to AWS; AWS then copies that data to hard disks and ships the hard disks to our customers. Our customers also can pay AWS to store their data on an ongoing basis.

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Complete Data Management Solution

There are two major components of our complete data management solution: assembly software and analysis software.

Assembly Software

Assembly is the process of using computing methods to organize the overlapping 70-base nucleotide sequences to reconstruct the whole genome. We have developed a proprietary approach to assembly that uses a combination of advanced data analysis algorithms and statistical modeling techniques to reconstruct over 90% of the whole human genome from approximately two billion 70-base reads. We have designed our assembly software to run in parallel across our large network of Linux computers.

In October 2011, we announced the launch or our cancer sequencing service. The service uses advanced algorithms specifically developed to handle the complexities of cancer. These algorithms provide better sensitivity to detect variants at low allele fraction and copy number variation in tumor specimens.

Analysis Software

After assembling the genomic data, we use our analysis software to identify key variants in each genome and automatically annotate the genomic data. We have developed a suite of open source analytical tools, called CGA™ Tools, designed to enable our customers to rapidly analyze the data we generate from their samples. For example, we offer a tool facilitating the comparison of two genomes, enabling the quick determination of where the genomes differ. We have also developed additional analytical tools, such as a tumor-normal comparison tool designed to allow cancer researchers to compare a cancer genome to the normal genome from which it was derived, a family analysis tool designed to enable researchers to compare parental genomes with the genomes of their children and a large-scale genome browser designed to allow researchers to compare the hundreds of genomes sequenced in a large-scale study.

Technology Strategy

We plan to continue to advance our whole human genome sequencing and analysis technology in five major areas:

Array Density. Our unique grid patterned arrays currently consist of a 600 nanometer grid. We may reduce the grid size to 250 nanometers and correspondingly reduce the diameter of the sticky spots and DNA nanoballs. If successful, this improvement will increase the density of the DNA on an array by a factor of approximately 6, which will decrease the reagent cost of sequencing a given amount of DNA by approximately a factor of 6. We may also decrease the depth of our arrays from 50 microns to 10 microns, which will decrease the reagent cost of sequencing a given amount of DNA by a factor of 5. Together, these improvements could reduce reagent costs by a factor of 30.

cPAL Optimization. We have developed a proprietary technique for preparing the DNA fragments so that we can read seven five-base segments from each of the two ends of the DNA fragment for a total of 70 bases from each fragment. We are also developing alternative DNA preparation approaches that could enable faster turnaround and lower costs.

Instrument Speed. Our unique grid patterned arrays enable us to align the grid pattern of the DNA on the array with the grid pattern of the pixels in the detector, allowing us to image our arrays with very short exposure times. We may increase the speed of our instruments by acquiring and deploying new cameras that take images and transfer data at approximately fifteen times the speed of our existing cameras. We may also increase the number of cameras per sequencing instrument from two to four.

Process Automation. We intend to improve our sample preparation, process automation and data management technologies to process and deliver an increasing number of genomes to our customers with reduced turnaround time.

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Analytic Software. We continue to improve and extend our analytic capabilities through the development of software designed to decrease genome assembly time and address specific application requirements of our customers. For instance, in December 2010, we started providing copy number variation and structural variation results to our customers and, in October 2011 we announced the launch of our cancer sequencing service.

As we implement a combination of these technology enhancements, our goal is to be the first company to sequence and analyze high-quality whole human genomes, at scale, for a total cost of under $1,000 per genome.

Sales, Marketing and Customer Support

We sell our whole human genome sequencing service through our direct field sales and support organizations. Our sales process with each new customer typically involves undertaking a small project, or pilot program, which enables the customer to become familiar with our outsourced solution and research-ready data. We then work with our customers to expand the relationship to larger projects.

Sales

We have assembled a highly experienced and technically qualified field sales team, many of whom hold a Ph.D. or other advanced degree in a relevant scientific field. Each of these sales managers brings a network of extensive contacts in our targeted customer segments. The sales group develops business opportunities and obtains orders for our whole human genome sequencing service by proactively identifying, qualifying and visiting well-funded prospects at major companies, institutions and universities.

Marketing

Our marketing group has developed and maintains the Complete Genomics brand, increases market awareness and generates demand for our solution through a variety of methods. First, we have created and continue to maintain a clear media presence via our website, press releases, interviews and articles that reinforce our market presence and scientific credibility. Second, we generate demand by promoting the company via marketing programs and by attending and exhibiting at relevant tradeshows and conferences. Third, we continue to evolve our marketing strategy by tracking market trends, understanding customer needs and developing appropriate products and programs. The marketing group also fulfills traditional product management requirements, such as defining our service and application strategy and roadmap, including partnering strategies, and developing sales tools, training materials and competitive analyses for the sales group.

Customer Support

We are committed to supporting our customers through a network of scientific applications staff based in both Mountain View and locations near our most concentrated customer bases. This team currently consists mostly of Ph.D. level scientists with extensive bioinformatics experience. Our scientific applications team works with customers to address technical questions related to our service offering and provides detailed training and support.

Most of the training and support efforts are focused on helping customers understand and use the large amounts of data that are delivered as part of multi-human whole genome sequencing projects. We supplement these efforts with a team of Mountain View-based bioinformatics support specialists.

Research and Development

Our research and development team brings together a variety of technical disciplines required for the development of a high-throughput sequencing system for commercial human genome sequencing services and includes DNA engineers, biochemists, molecular biologists, chemists, mathematicians, statisticians and

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electrical, mechanical, optical and software engineers. As of December 31, 2011, we had approximately 98 employees engaged in research and development, many with Ph.D.s. These professionals apply their skills in disciplines including:

- biochemistry (sample preparation, DNA array preparation, DNA sequencing assay);
- hardware (optics, fluidics, mechanical design, flow slides);
- software (algorithms, instrument software, genome sequencing software, bioinformatics);
- information technology (high-performance data center management);
- semiconductors (mask design, surface chemistry); and
- process automation.

Our research and development teams are engaged in developing new applications for our technologies, including:

- ***Cancer Sequencing.*** In October 2011, we launched our cancer sequencing service. Our development teams are continuing to enhance the service by evaluating how best to reduce DNA input requirements, expand sample types, for example, formalin fixed paraffin embedded (FFPE) and xenograft samples, and broaden the capabilities of our analysis software for our customers.
- ***Diploid Sequencing.*** We have invented and are developing a method for independently sequencing the maternal and paternal chromosomes. We believe this independent chromosome sequencing will be required for many molecular diagnostics, because multiple variants within a gene may or may not affect both copies of the gene.
- ***Clinical Sequencing.*** We have initiated a program to achieve CLIA certification of our facility for use with a LDT. This LDT will require assay validation and external regulatory oversight.

In the years ended December 31, 2011, 2010 and 2009, we spent $32.7 million, $21.7 million and $22.4 million, respectively, on company-sponsored research and development activities.

Intellectual Property

Our success depends in part upon our ability to obtain and maintain intellectual property rights with respect to our products, technology and know-how, to prevent others from infringing these intellectual property rights and to operate without infringing the proprietary rights of others. Our policy is to seek to protect our proprietary position by, among other methods, filing patent applications related to our proprietary technology, inventions and improvements that are important to the development and conduct of our business. We also rely on trade secrets and know-how to develop and maintain our proprietary position.

Our patent strategy is to seek broad patent protection on new developments in genome sequencing technology, and also file patent applications covering new implementations of our technology. Additionally, we file new patent applications directed at equipment and software that are used in conjunction with our genome sequencing technology.

Our core genome sequencing technology originated at Callida Genomics, Inc., or Callida, in the laboratory of Radoje (Rade) Drmanac, Ph.D., our Chief Scientific Officer and one of our co-founders. Dr. Drmanac played an important role in high-throughput sequencing of whole genomes using ligation-based sequencing reactions performed on microarrays. In March 2006, we entered into a license agreement with Callida pursuant to which we exclusively licensed from Callida the relevant patent filings relating to the use of the technology in random arrays, or arrays of genomic DNA fragments wherein the position of any specific fragment on the array is not predetermined, and probe anchor ligation, which we utilize in our commercial sequencing technology. Under this license agreement, we also obtained a nonexclusive license under additional patent filings owned by Callida that permits us to use the random array technology without infringing such additional patents. In exchange for the licenses, we issued to Callida 13,333 shares of our common stock, paid $1.0 million in cash for repayment of

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certain promissory notes issued by Callida and made six payments of $250,000 which totaled $1.5 million. The license agreement remains in effect until each of the licensed patents has either expired or has been abandoned or ruled invalid. Either party may terminate the agreement for a material breach upon 120 days notice (or 30 days notice if the breach is due to failure to make a payment under the license agreement). Pursuant to the license agreement, Callida retains the rights to use the exclusively licensed technology for research purposes only.

As of February 1, 2012, we have licensed from Callida 11 issued U.S. patents and 6 issued foreign patents that will expire between 2014 and 2027. In addition, as of February 1, 2012, we own 5 issued U.S. patents that will expire between 2027 and 2028. Also, as of February 1, 2012, we own or have licensed 117 pending patent applications, including 58 applications filed in the United States, 54 applications filed in foreign countries, and 5 applications filed under the Patent Cooperation Treaty.

In addition to pursuing patents on our technology, we have taken steps to protect our intellectual property and proprietary technology by entering into confidentiality agreements and intellectual property assignment agreements with our employees, consultants, corporate partners and, when needed, our advisors.

The patent positions of companies like ours are generally uncertain, and the validity and breadth of claims in DNA sequencing technology patents may involve complex factual and legal issues for which no consistent policy exists. Our patents and licenses may not enable us to obtain or keep any competitive advantage. Our pending U.S. and foreign patent applications may not issue as patents or may not issue in a form that will be advantageous to us. Patents we have obtained or do obtain in the future may be challenged by re-examination, opposition or other administrative proceeding, or may be challenged in litigation, and such challenges could result in a determination that the patent is invalid.

Our owned or licensed patents may be successfully circumvented by competitors. In addition, the patent laws of foreign countries differ from those in the United States, and the degree of protection afforded by foreign patents may be different from the protection offered by U.S. patents.

Our commercial success depends in part on our non-infringement of the patents or proprietary rights of third parties. For a description of the risks we face relating to intellectual property, please see Risk Factors Risks Related to Intellectual Property.

Competition

Competition among organizations developing or commercializing sequencing instruments and services is intense. The sequencing industry is dominated by large, established companies that provide instruments and reagents, for sequencing, expression analysis and genotyping. These companies include Illumina, Inc., Life Technologies Corporation, and Roche Diagnostics Corporation. These competitors are large and well-established, and each maintains a significant market share. Although historically these companies have sold instruments and reagents, some of these competitors have made forays into the sequencing services market. For example, competition in the sequencing services market is growing as evidenced by Illumina s recent announcement that it had sequenced over 900 genomes through its sequencing services in the fourth quarter of 2011. Illumina began providing whole genome sequencing services in-house and through its Illumina Genome Network in mid-2010, and Life Technologies has announced a collaboration to build a genome sequencing facility. Additionally, new competitors may enter the whole genome sequencing market, either by providing sequencing services as we do or by selling less expensive and more powerful sequencing instruments. We expect to face more intense competition if our service-based model is successful. In addition, future competitors may include other companies, like NABsys, Inc., Oxford Nanopore Technologies, Ltd., Pacific Biosciences, Inc. and Perkin Elmer Corporation, which have developed or are developing sequencing technologies or services that may compete with ours in the future. Large, established companies may acquire smaller companies, such as these, with emerging technologies and use their extensive resources to develop and commercialize or incorporate these technologies into their instruments and services. Life Technologies recently announced that its new sequencing platform (acquired from Ion Torrent Systems, Inc. in 2010) may be able to sequence a genome for $1,000 in less than one day by the end of 2012.

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A number of these and other organizations are developing methods for DNA sequencing using single molecule or long-read sequencing technologies. To date, the developers of single molecule technologies have not demonstrated that single molecule sequencing can achieve the quality required for whole human genome sequencing projects at a reasonable cost. While long-reads are critically important for *de novo* sequencing, or sequencing organisms which have not previously been sequenced, we believe they are not required for sequencing high quality whole human genomes.

In addition to commercial companies, there are large, government-funded or research-sponsored organizations, such as the Broad Institute of MIT and Harvard, the Genome Center at Washington University, the Baylor College of Medicine Human Genome Sequencing Center, the Wellcome Trust Sanger Institute and BGI (formerly known as Beijing Genome Institute), that purchase commercial DNA sequencing instruments and offer DNA sequencing services to academic and commercial customers.

For a description of the risks we face related to competition, please see Risk Factors Risks Related to Our Business We face significant competition. Our failure to compete effectively could adversely affect our sales and results of operations and The emergence of competitive genome sequencing technologies may harm our business.

Operations

We have established laboratory operations for our first genome center in Mountain View, California, and we have additional laboratory operations in Sunnyvale, California. Our Tier III data center is located in Santa Clara, California. We expect to deploy additional sequencing centers in the future, and it is likely that these will be located in other regions, including outside of the United States.

Genomic samples arrive at our facilities by common carrier, such as FedEx or UPS, and are tested for a number of pre-defined quality acceptance criteria. Samples that pass acceptance testing are prepared for sequencing, loaded on a flow slide and sequenced on a sequencing instrument. After the sequencing process, data generated by the sequencing instrument is processed in our high performance computing center to generate the final customer data deliverable. We upload our customers finished genomic data to AWS, which copies the data to hard disks and ships the hard disks to our customers. Our customers can also pay AWS to store their data on an ongoing basis.

The time to delivery, from sample receipt to data shipment, is typically 90 to 120 days. Our genome sequencing center has a finite capacity, and time to delivery will increase if demand exceeds our capacity or if we are experiencing processing delays. For example, the processing delays we experienced in the fourth quarter of 2011 will result in some genomes being delivered in well over 120 days in the first half of 2012. In the future, we expect to reduce time to delivery though technical and procedural improvements. Our sequencing capacity is primarily determined by the equipment, automation and personnel we deploy.

Manufacturing and Supply

We have adopted a manufacturing strategy of purchasing most components we use to conduct our sequencing services, including silicon wafers, optical microscopes and various other imaging components, sophisticated cameras and chemicals and reagents, from third party suppliers. This allows us to maintain a more flexible infrastructure while focusing our expertise on deploying these components and supplies to provide high-quality, lower-cost whole genome sequencing services on a large scale.

Although alternative suppliers exist, we currently utilize single suppliers for certain key materials used in our sequencing process. In particular, we utilize SVTC Technologies L.L.C. to provide us with the silicon chips that are the base of the flow slide used in our sequencing process and Hamamatsu Corporation for the cameras used in our sequencing instruments. We are in the process of identifying and qualifying additional suppliers, although we cannot predict how long that qualification process will last, and the time needed to establish a relationship can be lengthy.

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Delays, quality issues or interruptions by our suppliers may harm our business, and we may be forced to establish relationships with new suppliers. However, because the lead time needed to engage a new supplier can be lengthy, we may experience delays in meeting demand if we must switch to a new supplier. For more information regarding risks related to our supply chain, please see Risk Factors Risks Related to Our Business we depend on a limited number of suppliers, including single-source suppliers, of various critical components for our sequencing process. The loss of these suppliers, or their failure to supply us with the necessary components on a timely basis, could cause delays in the current and future capacity of our sequencing center and adversely affect our business.

Government Regulations

We believe our sequencing service is not currently subject to FDA regulation, clearance or approval. However, to the extent we expand our service to encompass products that are intended to be used for the diagnosis of disease, such as molecular diagnostic products, regulation by governmental authorities in the United States and other countries will be a significant factor in the development, testing, production, and marketing of such products. In addition, because the genomic data we provide generally neither identifies nor provides a reasonable basis to identify an individual, we are not currently subject to the Health Insurance Portability and Accountability Act of 1996, or HIPAA. However, once provided to certain of our customers, the genomic data and the activities of those customers may be regulated under both HIPAA and the Genetic Information Nondiscrimination Act of 2008.

We have recently initiated a process to seek accreditation for our sequencing facility under the Clinical Laboratory Improvement Amendments, or CLIA, which is administered through the Centers for Medicare & Medicaid and Department of Health and Human Services. Our laboratory is also subject to federal, state, regional and local regulations relating to the handling and disposal of hazardous materials and biohazardous waste, including chemicals, biological agents and compounds and blood and other human tissue. We utilize qualified third party vendors for waste disposal and handling, and these vendors are contractually obligated to comply with any applicable regulations. Our cost of waste disposal has historically not been material, and we expect this to be true in the future.

Given the evolving nature of this industry, legislative bodies or regulatory authorities may adopt additional regulation or expand existing regulation to include our service. For example, in the future, our service could be subject to FDA regulation. Changes to the current regulatory framework, including the imposition of additional or new regulations, could arise at any time, and we may be unable to obtain or maintain FDA or comparable regulatory approval or clearance of our service, if required. In addition, changes to data protection laws in the U.S., Europe or elsewhere could lead to regulation of genetic information that could affect the manner in which we handle genome sequence data and deliver such data to our customers. These regulations and restrictions may materially and adversely affect our business, financial condition and results of operations. For more information regarding the risks of future government regulation, please see Risk Factors Risks Related to Our Business Because the market for genome sequencing is relatively new and rapidly evolving, we may become subject to additional future governmental regulation, which may place additional cost and time burdens on our operations.

Backlog

We define order backlog as the number of genomes for which customers have placed sequencing orders that we believe are firm and for which we have not yet recognized revenue. Estimating the dollar value of backlog that will be fulfilled within the current fiscal year, or any other particular period, requires significant judgments and estimates, as the mix of customer orders and pricing terms varies between arrangements depending on the number of genomes covered by the arrangement. It also requires estimating the timing of the receipt of qualified samples from our customers, over which we have no control, and the timing of the sequencing of the genomes. Unanticipated delays in obtaining, processing and fulfilling sequencing orders would result in a delay in recognizing associated revenue.

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Given the revenue variance resulting from this mix and the rapidly evolving nature of the sequencing industry, we do not believe that backlog as of any particular date is necessarily indicative of future results. However, we do believe that order backlog is an indication of our customers willingness to utilize our solution. As of December 31, 2011, we had a backlog of approximately 5,800 genomes which we believe will contribute approximately $28.0 million in revenue in 2012. As of December 31, 2010, we had a backlog of approximately 1,000 genomes which contributed approximately $10.0 million in revenue. See Risk Factors Risk Related to Our Business Our order backlog may never be completed, and we may never earn revenue on backlogged contracts to sequence genomes.

Geographical Information

We derived a majority of our revenue from customers located in the United States. Our total revenue from customers outside the United States for fiscal years 2011, 2010 and 2009 was $5.4 million, $2.7 million and $0.1 million, or approximately 28%, 29% and 16%, respectively, of our total revenue. Sales to customers located outside of the United States are denominated in U.S. dollars. We expect that sales to international customers will be an important and growing source of revenue, particularly if we construct additional genome sequencing centers outside of the United States. All of our long-lived assets are located in the United States.

A summary of revenues from external customers attributed to each of our geographical areas for the years ended December 31, 2011, 2010 and 2009, is included in Item 8. Financial Statements and Supplementary Data- Note 2: Summary of Significant Accounting Policies.

Employees

As of December 31, 2011, we had a total of 255 employees, 98 of whom are engaged in full-time research and development activities, many with Ph.D. degrees. We plan to expand our production, our sales and marketing and our research and development programs, and we plan to hire additional staff as these initiatives are implemented. None of our employees is represented by a labor union, and we consider our employee relations to be in good standing.

Seasonality

Our industry is still emerging and no indications of seasonality have yet emerged.

Business Segment

We operate as one business segment, providing whole human genome sequencing and analysis. Our operations are treated as one segment as we only report operating information on a total enterprise level to our chief operating decision-maker. Further, resource allocations are made at the enterprise level by our chief operating decision-maker.

Corporate Information

We were incorporated in the state of Delaware on June 14, 2005. The address of our principal executive offices is 2071 Stierlin Court, Mountain View, California 94043, and our telephone number is (650) 943-2800. Our website address is *www.completegenomics.com*. We do not incorporate the information on, or that can be accessed through, our website into this Annual Report.

Available Information

We make available free of charge on our website our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and all amendments to those reports as soon as reasonably practicable after such material is electronically filed with or furnished to the SEC. In addition, copies of our annual reports are available free of charge upon written request. The SEC also maintains an Internet site that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC. The address of that site is *www.sec.gov*

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ITEM 1A. RISK FACTORS

Investing in our common stock involves a high degree of risk. You should carefully consider the risks described below and the other information in this Annual Report on Form 10-K. If any of such risks actually occur, our business, operating results or financial condition could be adversely affected. In those cases, the trading price of our common stock could decline and you may lose all or part of your investment.

Risks Related to Our Limited Operating History, Financial Condition and Capital Requirements

We are an early, commercial-stage company and have a limited operating history, which may make it difficult to evaluate our current business and predict our future performance.

We are an early, commercial-stage company and have a limited operating history. We were incorporated in Delaware in June 2005 and began operations in March 2006. From March 2006 until mid-2009, our operations focused on research and development of our DNA sequencing technology platform. Our revenue for the years ended December 31, 2011, 2010 and 2009 from the sale of our genome sequencing services were $19.3 million, $9.4 million and $0.6 million, respectively. Our limited operating history, particularly in light of our novel, service-based business model in the rapidly evolving genome sequencing industry, may make it difficult to evaluate our current business and predict our future performance. Our lack of a long operating history, and especially our very short history as a revenue-generating company, make any assessment of our profitability or prediction about our future success or viability subject to significant uncertainty. We have encountered and will continue to encounter risks and difficulties frequently experienced by early, commercial-stage companies in rapidly evolving industries. If we do not address these risks successfully, our business will suffer.

We will require substantial additional funding and may be unable to raise capital when needed, which could force us to delay, reduce or cancel certain business objectives or we may be unable to continue as a going concern.

Our future capital requirements will be substantial, particularly as we further develop our business, expand the sample preparation, sequencing and computing capacities in our Mountain View and Santa Clara, California leased facilities and establish satellite genome sequencing centers. Historically, we have financed our operations through private placements of preferred stock, convertible debt, borrowings under our credit facility, secured debt and through public offerings of our common stock.

We believe that, based on our current level of operations and anticipated growth, our cash and cash equivalent and short-term investment balances, including interest income we earn on those balances, will not be sufficient to meet our anticipated cash requirements for the twelve months beyond the December 31, 2011 balance sheet. Our requirement for additional funding to execute our business objectives beyond this period gives rise to substantial doubt as to our ability to continue as a going concern. We intend to seek additional funding through public sales of our equity securities, collaborations and/or other strategic transactions.

We may not be able to raise sufficient additional financing on terms that are acceptable, if at all. Given the risks associated with our business, including our limited operating history and our new business model in an emerging industry, and recent difficulties for life sciences companies raising funds in the capital markets, we may be unable to raise additional capital in the amounts we require, if at all. In addition, if future financings involve the issuance of equity securities, our existing stockholders would suffer dilution. If we fail to raise sufficient funds and continue to incur losses, our ability to operate our business, take advantage of strategic opportunities, further develop and enhance our technology or otherwise respond to competitive pressures could significantly suffer. If this happens, we may be forced to:

- slow the commercialization of our services;
- delay or terminate research or development programs;
- slow or halt the establishment of satellite genome sequencing centers;

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seek to obtain funds through collaborative and licensing arrangements, which may require us to relinquish commercial rights or grant licenses on terms that are not favorable to us; or

curtail or cease operations.

The amount of additional capital and timing at which we require the additional capital necessary to fund our operations and expand our business depends on many factors, including:

the financial success of our genome sequencing business;

our ability to increase the sample preparation, sequencing and computing capacities in our Mountain View and Santa Clara leased facilities;

the average selling price per genome at which we are able to sell our whole genome sequencing services;

the rate at which we establish satellite genome sequencing centers, if any, and whether we can find suitable partners to establish such centers, if at all;

whether we are successful in obtaining payments from customers;

whether we can enter into collaborations or establish a recurring customer base;

the progress and scope of our research and development projects;

the effect of any joint ventures or acquisitions of other businesses or technologies that we may enter into or make in the future;

the filing, prosecution and enforcement of patent claims; and

the costs associated with lawsuits brought against us by third parties, including our current litigation with Illumina, Inc.

We have a history of losses, and we may not achieve or sustain profitability in the future, on a quarterly or annual basis.

We have not been profitable in any annual or quarterly period since we were formed. We incurred net losses of $72.3 million, $57.7 million and $35.9 million for the years ended December 31, 2011, 2010 and 2009, respectively. As of December 31, 2011, our accumulated deficit was $211.2 million. Based on our current operating plans and assumptions, we do not expect to achieve profitability on an annual basis in the near future. In addition, we expect our cash expenditures to remain significant in the near term, including expenditures for the expansion of our sample preparation, sequencing and computing capabilities, research and development, sales and marketing and general and administrative expenses. We may encounter unforeseen difficulties, complications and delays in our existing sequencing facility or establishing satellite genome sequencing centers and other unforeseen factors that require additional expenditures. These costs, among other factors, have had and will continue to have an adverse effect on our working capital and stockholders equity. We will have to generate and sustain substantially increased revenue to achieve and maintain profitability, which we may never do. If we are unable to achieve and then maintain profitability, the market value of our common stock will decline.

Our operating results may fluctuate in the future. As a result, we may fail to meet or exceed the expectations of research analysts or investors, which could cause our stock price to decline.

Our financial condition and operating results may fluctuate from quarter to quarter and year to year in the future due to a variety of factors, many of which are beyond our control. Factors relating to our business that may contribute to these fluctuations include the following, as well as other factors described elsewhere in this Annual Report:

our ability to achieve profitability;

our need for and ability to obtain the capital necessary to operate and expand our business;

the timing of our receipt of customer samples;

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- the size and frequency of customer orders;
- our ability to lower the average cost per genome that we sequence;
- the average selling price we charge our customers for sequencing genomes;
- the presence or absence in a specific quarter of one or more new large orders;
- our ability to expand our sample preparation, sequencing and computing operations;
- the demand for the sequencing of complete human genomes;
- the existence and extent of government funding for research and development relating to genome sequencing;
- the emergence of alternative genome sequencing technologies;
- risks associated with expanding our business into international markets;
- our dependence on single-source suppliers;
- our ability to manage our growth;
- our ability to successfully partner with other businesses in joint ventures or collaborations, or integrate any businesses we may acquire with our business;
- our dependence on, and our need to attract and retain, key management and qualified sales personnel;
- our ability to obtain, protect and enforce our intellectual property rights and avoid infringing the intellectual property rights of others;
- our ability to prevent the theft or misappropriation of our know-how or technologies;
- lawsuits brought against us by third parties;
- business interruptions, such as earthquakes and other natural disasters;

public concerns about the ethical, legal and social concerns related to the use of genetic information;

our ability to comply with current laws and regulations and new or expanded regulatory schemes;

our ability to properly handle and dispose of hazardous materials used in our business and biological waste; and

our ability to use our net operating loss carryforwards to offset future taxable income.

Due to the various factors mentioned above, and others, the results of any prior quarterly or annual periods are not necessarily indicative of our future operating performance.

Our independent registered public accounting firm has included an explanatory paragraph relating to our ability to continue as a going concern in its report on our audited financial statements included in this Annual Report.

The report from our independent registered public accounting firm for the year ended December 31, 2011 includes an explanatory paragraph stating that our recurring losses from operations and significant negative cash flow from operations raise substantial doubt about our ability to continue as a going concern. If we are unable to obtain sufficient funding, our business, financial condition and results of operations will be materially and adversely affected and we may be unable to continue as a going concern. If we are unable to continue as a going concern, we may have to liquidate our assets and may receive less than the value at which those assets are carried on our consolidated financial statements, and it is likely that investors will lose all or a part of their investment. If we seek additional financing to fund our business activities in the future and there remains doubt about our ability to continue as a going concern, investors or other financing sources may be unwilling to provide additional funding on commercially reasonable terms or at all.

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Risks Related to Our Business

Our only source of revenue is our human genome sequencing service, which is a new business model in an emerging industry, and failure to achieve market acceptance will harm our business.

Since our inception, all of our efforts have been focused on the creation of a technology platform for our human genome sequencing service, which we commercialized in May 2010. We expect to generate all of our revenue from our human genome sequencing service for the foreseeable future. As a result, market acceptance of our human genome sequencing service is critical to our future success.

Providing genome sequencing as a service is a new and unproven business model in a relatively new and rapidly evolving industry. We are using proprietary technology, involving multiple scientific and engineering disciplines, and a novel service model to bring complete human genome sequencing to an unproven market. We incur considerable research and development and general and administrative expenses in providing our services to our customers and, hence, our revenues will have to grow many fold before we can achieve profitability.

Historically, companies in this industry have sold sequencing instruments directly to customers, and the customer performs the sequencing itself. We do not know if the purchasers and users of sequencing instruments will adopt our service model. For example, many potential customers want to sequence human genomes for proprietary studies that may lead to discoveries which they would seek to exploit, either commercially or through the publication of scientific literature. Accordingly, these potential customers may have significant reservations about allowing a third party to control the sequencing processes for their proprietary studies. Alternatively, other potential customers may want to sequence only portions of human genomes, such as exomes, rather than complete human genomes. There are many reasons why our services might not become widely adopted, ranging from logistical or quality problems to a failure by our sales force to engage potential customers, and including the other reasons stated in this Risk Factors section. As a result, our genome sequencing service may not achieve sufficient market acceptance to allow us to become profitable.

Our success depends on the growth of markets for analysis of genetic variation and biological function, and the shift of these markets to whole human genome sequencing.

We are currently targeting customers for our genome sequencing service in academic centers, medical research centers, government research institutions, biopharmaceutical companies and health care organizations. Our customers are using our service for small- and large-scale human genome studies for a wide variety of diagnostic and discovery applications. These markets are new and emerging, and they may not develop as quickly as we anticipate, or reach their full potential. Our success depends on the demand of whole human genome sequencing increasing substantially from its current levels. The development of the market for whole human genome sequencing and the success of our service depend in part on the following factors:

- demand by researchers for whole human genome sequencing;
- the usefulness of genomic data in preventing, identifying or treating disease;
- the ability of our customers to successfully analyze the genomic data we provide;
- the ability of researchers to convert genomic data into medically valuable information;
- the capacity and scalability of the hardware storage components necessary to store, manage, backup, retain and safeguard genomic data; and
- the development of software tools, such as bioinformatics systems, to efficiently search, correlate and manage genomic data to assist our customers in effectively analyzing the genomic data we provide.

For instance, demand for our genome sequencing service may decrease if researchers are unable to effectively use and ultimately analyze the large amounts of genomic data from a whole human genome or if they fail to find meaningful correlations between genetic variation and disease susceptibility through whole human genome studies. In February 2012, our Genomic Discovery Partners Program was launched to facilitate the analysis of large amounts of genomic data. This program is a partnership with other analysis software providers whose

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analysis tools are compatible with our analysis tools. We cannot be certain this program will be successful. In addition, factors affecting research and development spending generally, such as changes in the regulatory environment affecting biopharmaceutical and other healthcare organizations and changes in government programs that provide funding to companies and research institutions, could harm our business. If our target markets do not develop in a timely manner, demand for our service may grow at a slower rate than we expect, or may fall, and we may not achieve profitability.

To date, relatively few whole human genomes have been sequenced, in large part due to the high cost of large-scale sequencing. Our business plan assumes that the demand for sequencing whole human genomes will increase significantly as the cost of whole human genome sequencing decreases. This assumption may prove to be incorrect, or the increase in demand may take significantly more time than we anticipate. For example, potential customers may not think our cost reductions are sufficient to permit or justify large-scale sequencing. Moreover, some companies and institutions have focused on sequencing targeted areas of the genome that are believed to be primarily associated with disorders and diseases, as opposed to the entire genome. Demand for sequencing whole human genomes may not increase if these targeted sequencing strategies, such as exome sequencing, where selected regions containing key portions of genes are sequenced, prove to be more cost effective or are viewed as a more efficient method of genetic analysis than whole human genome sequencing. Since exome sequencing is significantly less expensive than the sequencing of an entire human genome, customers, including those with limited budgets, may choose to sequence exomes instead of whole human genomes.

We must significantly increase our production capabilities in order to achieve profitability.

We have very limited experience in running a commercial-scale production facility. We have only one sequencing facility, which at present has the capacity to sequence approximately 1,000 complete human genomes per month. This capacity is significantly less than what would be required to achieve profitability. Our business plan assumes that we will be able to increase our capacity multiple fold.

We plan to increase the capacity of our sequencing facility by increasing our sample preparation capacity, upgrading our existing sequencers, installing additional sequencers, improving our software and designing and installing newer generations of sequencing instruments that are currently under research and development. We may also construct satellite genome sequencing centers in the United States and elsewhere in the future. We may encounter difficulties in expanding our sequencing infrastructure, and we may not build and improve this infrastructure in time to meet the volume, quality or timing requirements necessary to be successful. Manufacturing and supply quality issues may arise, including issues due to third parties who provide the components of our technology platform. We are designing our next generation of sequencers that are targeted to be faster than our current sequencers. We may experience technical difficulties that may cause substantial delays and as a result hamper our efforts to achieve a significant increase in our capacity. As our sequencing capacity and demand for our sequencing services increases, we will be required to scale up our sample and library preparation capacity. We encountered delays and difficulties in scaling up our sample and library preparation capacity in the second half of 2011. We may also encounter delays or difficulties in our future sample and library expansion efforts. Generally, implementing improvements to our sequencing technology may involve significant changes that may result in delays, or may not achieve expected results. For example, we are experimenting with increasing the density of DNBs on our DNA arrays. These experiments may be unsuccessful and may not lead to feasible technological improvements that increase the capacity or reduce the costs of our sequencing services. If capacity or cost limitations prevent us from meeting our customers expectations, we will lose revenue and our potential customers may take their business to our competitors.

Our need to increase capacity may require us to upgrade our machines to enhance our current production process. This may render our current machines obsolete sooner than anticipated. If this occurs, the value of these machines could be impaired and we may need to write down the value of this equipment, which could have a material impact on our financial statements.

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Reduction or delay in research and development budgets and government funding may adversely impact our sales.

We expect that for the foreseeable future, our revenue will be derived primarily from selling our genome sequencing service to a relatively small number of academic, governmental and other research institutions, as well as biopharmaceutical and healthcare organizations. Our revenue may decline substantially due to reductions and delays in research and development expenditures by these customers, which depend, in part, on their budgets and the availability of government funding. Factors that could affect the spending levels of our customers include:

- weakness in the global economy and changing market conditions that affect our customers;
- changes in the extent to which the pharmaceutical and life science industry may use genetic information and genetic testing as a methodology for drug discovery and development;
- changes in government programs that provide funding to companies and research institutions;
- changes in the regulatory environment affecting biopharmaceutical and life science companies and research and medical institutions;
- impact of consolidation within the biopharmaceutical and life science industry; and
- cost-reduction initiatives of customers.

Also, government funding of research and development is subject to the political process, which is inherently unpredictable. Any reduction in the funding of life science research and development or delay surrounding the approval of government budget proposals may cause our customers to delay or forgo purchases of our services. For example, uncertainty regarding the size of the U.S. government s 2012 -2013 budget for the National Institute of Health, or NIH, and related agencies may cause our customers to slow or delay purchases of our services. In addition, it is unclear what will happen to demand for our services after the stimulus funds provided to NIH pursuant to the American Recovery and Reinvestment Act of 2009 have been allocated and fully spent. A reduction or delay in demand for our service will adversely affect our ability to achieve profitability.

The presence or absence in a specific quarter of one or more new large orders, our ability to process orders or the cancellation of previous orders, may cause our results of operations and backlog to fluctuate significantly on a quarterly basis.

Since beginning commercial operations, we have received purchase orders or contracts from a growing but limited number of customers each quarter. Historically, the size of each purchase order has fluctuated between a few genomes and multiple hundreds of genomes. As a result, the presence or absence in a specific quarter of one or more new large orders, delays in our ability to process large orders or the cancellation of previous orders, combined with our uncertain sales cycle and changes in the variables that influence conversion of orders into revenue, may cause our results of operations and our backlog to fluctuate on a quarterly basis. These fluctuations may be significant from one quarter to the next. In addition, our limited commercial history and the characteristic of our quarterly orders make it very difficult to predict or forecast our future operating results and backlog.

If we are not successful in reducing the average cost of our sequencing service, demand for our services, as well as our ability to achieve profitability, will suffer.

Our ability to expand our customer base depends largely on our ability to reduce the average cost of sequencing a human genome. For example, certain academic or government-sponsored research organizations may forgo or delay whole genome-wide studies based on the cost required to sequence complete human genomes, in favor of other less expensive studies, including targeted sequencing strategies such as exome sequencing. Additionally, certain of our target customers may decide it is more cost-effective to purchase sequencing instruments from a competitor than contract for our sequencing service or may choose to outsource their sequencing projects to another service provider. To compete effectively with competitors who sell and market sequencing instruments or provide sequencing services, our service must provide cost advantages, superior

quality and time savings.

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In addition, we have significantly reduced the price of our complete human genome sequencing services over the past few quarters. This reduction in price has been driven in part by competitive pricing pressure as well as increased order sizes from our customers. As our competitors reduce the price of their sequencing services, or as new competitors enter the market or expand their business model to include sequencing services, we expect increased pricing pressure, which may force us to decrease the price of our genome sequencing service. Our gross profit and operating results will suffer if we are unable to offset any reductions in our prices by reductions in our costs through developing new or enhanced technologies or methods, or increasing our sales volumes.

We face significant competition. Our failure to compete effectively could adversely affect our sales and results of operations.

We currently compete with companies that develop, manufacture and market genome sequencing instruments or provide genome sequencing services. We expect competition to increase as our competitors develop new, improved or cheaper instruments or expand their businesses to include sequencing services, and as new companies enter the market with innovative technologies.

The market for genome sequencing technology is highly competitive and is served by several large companies with significant market shares. For example, established companies such as Illumina, Inc., Life Technologies Corporation and Roche Diagnostics Corporation are marketing instruments for genetic sequencing that are directly competitive with our services, and these companies have significantly greater financial, technical, marketing and other resources than we do to invest in new technologies and have substantial intellectual property portfolios and substantial experience in product development and regulatory expertise. Also, many other companies, such as NABsys, Inc., Oxford Nanopore Technologies, Ltd., Pacific Biosciences, Inc. and Perkin Elmer Corporation, are developing sequencing technologies or services that would compete with ours. Moreover, large established companies may acquire smaller companies with emerging technologies and use their extensive resources to develop and commercialize such technologies or incorporate such technologies into their instruments and services. For example, in 2010, Life Technologies acquired Ion Torrent Systems, Inc., a chip-based sequencing technology company, and recently announced that the sequencing platform acquired from Ion Torrent may be able to sequence a genome for $1,000 in less than one day by the end of 2012.

In addition, many research, academic and other non-profit institutions are pursuing new sequencing technologies. These institutions often have access to significant government and other funding. For example, BGI (formerly known as Beijing Genomics Institute) in the People s Republic of China offers a service that is similar to ours and is funded by the government of China. In the United States, agencies such as the National Human Genome Research Institute provide funding to institutions to discover new sequencing technology. We may compete directly with these institutions, or these institutions may license their technologies to third parties with whom we would compete.

While many of our existing competitors primarily sell sequencing instruments, they may also provide sequencing services like us. Since these competitors have already developed their own sequencing technology, they will not experience significant technological barriers to entry and can likely enter the sequencing services market fairly quickly and with little additional cost. For example, Illumina began providing whole genome sequencing services in-house and through its Illumina Genome Network in mid-2010, and Life Technologies has announced a collaboration to build a genome sequencing facility. Recently, Illumina reported that its outsourced sequencing business is gaining traction and that it sequenced over 900 genomes for its customers in the fourth quarter of 2011. Furthermore, many of these instrumentation companies have already established a significant market presence, have large cash balances and/or positive balances from their current businesses, and are trusted by customers in the industry. As established instrumentation companies enter the sequencing services market, many potential customers may purchase sequencing services from these companies instead of us, even if we offer superior technology and services.

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Our order backlog may never be completed, and we may never earn revenue on backlogged contracts to sequence genomes. In addition, the timing of the conversion of our order backlog into revenue is dependent on the timing of receipt of samples from our customers.

As of December 31, 2011, we had a backlog of orders for sequencing approximately 5,800 genomes, which we believe could contribute approximately $28.0 million toward revenue over the next 12 months. This figure represents the number of genomes for which customers have placed sequencing orders that we believe are firm and for which we have not yet recognized revenue. We may not be able to convert order backlog into revenue at the rate or times we anticipate, or at all. Consequently, the order backlog we report in this Form 10-K and elsewhere from time to time may not be indicative of future revenue.

We may fail to complete backlog orders as we expect for many reasons. We may experience sequencing delays or customers may be delayed in providing samples for sequencing or might cancel orders. We are in the early stages of scaling up our services, and while we have been increasing our throughput capacity rapidly, we have in the past experienced growing backlog due to our inability to keep pace with new orders, operational challenges in implementing new equipment and procedures, delays in processing orders and in some cases due to lack of timely arrival of samples. Delays in sequencing for lack of capacity, lack of samples, or for any other reason could cause backlog orders to be cancelled by customers, which has happened to us at least once. Even with sufficient throughput capacity, we are not always in control of the rate at which we complete orders and therefore convert backlog to revenue. For example, customers often place firm orders with us before providing us with genomic samples, delaying our start of the sequencing process by weeks or months. A delay in receiving samples, particularly from a large order, may cause our results of operations to fluctuate significantly from one quarter to the next. Additionally, once we receive a customer s samples, we test them to assure that they are of sufficient quality and quantity for sequencing. If a sample fails this test, we contact the customer and request additional samples, resulting in further delay. Also, customers may negotiate a period of time, measured in weeks or in some cases months, to accept or reject our sequencing reports once delivered. Customer acceptance in these instances is a prerequisite for recording revenue for those orders. For these reasons, you should use caution in adopting changes in, or the absolute amount of, our backlog as a proxy for market acceptance of our sequencing services or as an indicator of future revenue.

The emergence of competitive genome sequencing technologies may harm our business.

The success of our genome sequencing services will depend, in part, on our ability to continue to enhance the performance and decrease the cost of our genome sequencing technology. A number of genome sequencing technologies exist, and new methods and improvement to existing methods are currently being developed, including technology platforms developed by companies that we expect will directly compete with us as providers of sequencing services or instruments. These new technologies may result in faster, more cost-effective and more accurate sequencing methods than ours. For example, our sequencing technology does not currently cover all of the nucleotides in the genome. If competitive technologies emerge that sequence portions of the genome that our technology does not, our business could suffer if those portions contain important genomic information. We expect to face competition from emerging companies, including NABsys, Oxford Nanopore Technologies and Pacific Biosciences. As a result of the emergence of these competitive sequencing technologies, demand for our service may decline or never develop sufficiently to sustain our operations.

Our industry is rapidly changing, with emerging and continually evolving technologies that increase the efficiency and reduce the cost of sequencing genomes. As new technologies emerge, we believe that the cost and error rates of, and the time required to, sequence human genomes will eventually decrease to a level where competition in the industry will shift to other factors, such as providing related services and analytical technologies. We may not be able to maintain any technological advantage over these new sequencing technologies, and if we fail to compete effectively on other factors relevant to our customers, our business will suffer.

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Our genome sequencing technology platform was developed for human DNA and is not currently optimized to sequence non-human DNA.

Our technology platform was developed and has been optimized for sequencing human DNA, and we do not intend to sequence non-human DNA. We face significant competition from established companies who sell genome sequencing instruments that can sequence both human and non-human DNA. Many of the academic and research institutions that are our target customers conduct studies on both human and non-human DNA. Prospective customers may choose to purchase sequencing instruments from a competitor because of their broader sequencing application. Our competitors may also choose to provide sequencing services for non-human DNA. As a result, there may not be sufficient demand for our human genome sequencing service, which will harm our business.

We depend on a limited number of suppliers, including single-source suppliers, of various critical components for our sequencing process. The loss of these suppliers, or their failure to supply us with the necessary components on a timely basis, could cause delays in the current and future capacity of our sequencing center and adversely affect our business.

We depend on a limited number of suppliers, including some single-source suppliers, of various critical components for our sequencing process. We do not have long-term contracts with our suppliers or service providers. Because we do not have long-term contracts, our suppliers generally are not required to provide us with any guaranteed minimum production levels. As a result, we may not be able to obtain sufficient quantities of critical components in the future.

Although alternative suppliers exist for each of the critical components of our sequencing process, that process has been designed around the functions, limitations, features and specifications of the components that we currently utilize. For example, the cameras in our sequencers are supplied by Hamamatsu Photonics and the optical equipment is supplied by Carl Zeiss, Inc. A failure by either or both of these companies to supply these components would require us to integrate alternative cameras and optical equipment, and potentially integrate other components, into future sequencing instruments. If we are required to integrate new components into future sequencers, we would experience a delay in the deployment of these sequencers, and, as a result, our efforts to expand our sequencing capacity would be delayed.

A delay or interruption by our suppliers may also harm our business. For example, the wafers that comprise the base of our sample slide are fabricated by SVTC Technologies, L.L.C. We have not yet qualified an alternative source for the supply of these wafers, which are critical to our sequencing process, and the custom manner in which these wafers are made may make it difficult to qualify other semiconductor suppliers to manufacture them for us. Similarly, an interruption of services by Amazon Web Services, on whom we rely to deliver finished genomic data to our customers, would result in our customers not receiving their data on time.

In addition, the lead time needed to establish a relationship with a new supplier can be lengthy, and we may experience delays in meeting demand in the event we must switch to a new supplier. The time and effort to qualify a new supplier could result in additional costs, diversion of resources or reduced manufacturing yields, any of which would negatively impact our operating results. Our dependence on single-source suppliers exposes us to numerous risks, including the following:

- our suppliers may cease or reduce production or deliveries, raise prices or renegotiate terms;
- delays by our suppliers could significantly limit our ability to sequence customer data and delay our efforts to increase our sequencing capacity;
- we may be unable to locate a suitable replacement on acceptable terms or on a timely basis, if at all; and
- delays caused by supply issues may harm our reputation, frustrate our customers and cause them to turn to our competitors for future projects.

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If our Mountain View genome sequencing facility becomes inoperable, we will be unable to perform our genome sequencing services and our business will be harmed.

We currently do not have redundant sequencing facilities on a scale that could support our business. We perform all of our commercial genome sequencing in our facility located in Mountain View, California. Mountain View is situated on or near earthquake fault lines. Our facility, the equipment we use to perform our sequencing services and our other business process systems are costly to replace and could require substantial time to repair or replace. The facility may be harmed or rendered inoperable by natural or man-made disasters, including earthquakes, wildfires, floods, acts of terrorism or other criminal activities, infectious disease outbreaks and power outages, which may render it difficult or impossible for us to sequence genomes for some period of time. In addition, these events may temporarily interrupt our ability to receive samples from our customers or materials from our suppliers and our access to our various systems necessary to operate our business. The inability to perform our sequencing service would result in the loss of customers and harm our reputation. We do not currently have insurance coverage for damage arising from an earthquake. Our insurance covering damage to our property may not be sufficient to cover all of our potential losses and will not cover us in the event of an earthquake, and may not continue to be available to us on acceptable terms, or at all.

Failure to achieve expected sequencing process yields, or variability in our sequencing process yields, could harm our operating results and damage our reputation.

Our sequencing process, like any other commercial-scale production process, is not flawless. For example, our DNBs may not adhere to all of the sticky spots on the surface of the silicon wafers we use to sequence DNA, or parts of the wafers may be unreadable. We refer to the efficiency of our sequencing process as its yield. The sequencing process yields we achieve depend on the design and operation of our sequencing process, which uses a number of complex and sophisticated biochemical, informatics, optical and mechanical processes, many of which are highly sensitive to external factors. An operational or technology failure in one of these complex processes or fluctuations in external variables may result in sequencing processing yields that are lower than we anticipate or that vary between sequencing runs. In addition, we are regularly evaluating and refining our sequencing process. These refinements may initially result in unanticipated issues that further reduce our sequencing process yields or increase the variability of our sequencing yields. Low sequencing yields, or higher than anticipated variability, increases total sequencing costs and reduces the number of genomes we can sequence in a given time period, which can cause variability in our operating results and damage our reputation.

We may have to resequence genomes due to contamination of DNA samples or other failures in the sequencing process.

In the past, we have had to resequence various genome samples as a result of contamination or other failures in the sample preparation and library construction process. The sequencing process is highly sensitive, and the presence of any foreign substances or variances in external factors, such as heat or moisture, during the preparation of the slide samples can corrupt the results of the sequencing process. The quality of our sequencing runs may also vary for other reasons. As we continue to refine the efficiency of our sequencing process, we may modify the protocols in various stages of the sequencing process, which may have unintended consequences requiring us to further modify the protocols and/or resequence genomes samples. Resequencing requires additional expense, time and capacity and delays the delivery of data and the recognition of revenue from the service. Samples may be contaminated in the future or the quality of our sequencing results may vary, which may damage our reputation and decrease the demand for our service.

Mishandling or switching of DNA samples or genomic data may harm our reputation and result in litigation against us.

We may unintentionally mishandle DNA samples. For example, if customer samples or sequencing results are switched, our customers would receive the wrong sequencing data, which could have significant consequences, particularly if that data is used to diagnose or treat disease. Mishandling customer samples or data could lead to loss of current or future business, harm our reputation and result in litigation against us.

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Ethical, legal and social concerns related to the use of genetic information could reduce demand for our genome sequencing services.

Our genome sequencing services are intended to facilitate large-scale human genome studies for a wide variety of diagnostic and discovery applications. However, genetic testing has raised ethical, legal and social issues regarding privacy and the appropriate uses of the resulting information. Governmental authorities could, for social or other purposes, limit or regulate the use of genetic testing or prohibit testing for genetic predisposition to certain conditions, particularly for those that have no known cure. Similarly, these concerns may lead individuals to refuse to use genetics tests even if permissible.

In addition, we do not control how our customers use the genomic data we provide. In most cases, we do not know the identity of the individuals whose DNA we sequence, the reason why their DNA is being sequenced or the intended use of the genomic data we provide. If our customers use our services or the resulting genomic data irresponsibly or in violation of legal restrictions, our reputation could be harmed and litigation may be brought against us.

Ethical and social concerns may also influence U.S. and foreign patent offices and courts with regard to patent protection for technology relevant to our business. These and other ethical, legal and social concerns may limit market acceptance of our technology for certain applications or reduce the potential markets for our technology, either of which could have an adverse effect on our business, financial condition or results of operations.

We use biological and hazardous materials that require considerable expertise and expense for handling, storage and disposal and may result in claims against us.

We work with materials, including chemicals, biological agents and compounds and DNA samples that could be hazardous to human health and safety or the environment. Our operations also produce hazardous and biological waste products. Federal, state and local laws and regulations govern the use, generation, manufacture, storage, handling and disposal of these materials and wastes. Compliance with applicable environmental laws and regulations is expensive, and current or future environmental laws and regulations may restrict our operations. If we do not comply with applicable regulations, we may be subject to fines and penalties.

In addition, we cannot eliminate the risk of accidental injury or contamination from these materials or wastes. While our property insurance policy provides limited coverage in the event of contamination from hazardous and biological products and the resulting cleanup costs, we do not currently have any additional insurance coverage for legal liability for claims arising from the handling, storage or disposal of hazardous materials. Further, our general liability insurance and workers compensation insurance policies do not cover damages and fines arising from biological or hazardous waste exposure or contamination. Accordingly, in the event of contamination or injury, we could be liable for damages or penalized with fines in an amount exceeding our resources and our operations could be suspended or otherwise adversely affected.

We have limited selling and marketing resources and may be unable to successfully commercialize our human genome sequencing service.

To grow our business as planned, we must expand our sales, marketing and customer support capabilities. We may be unable to attract, retain and manage the specialized workforce necessary to gain market acceptance and successfully commercialize our services. In addition, developing these functions is time consuming and expensive.

The sale of genome sequencing services involves extensive knowledge about genomic research and sequencing technology, including the sequencing technology of our competitors. To be successful, our sales force and related personnel must be technically proficient in a variety of disciplines. For example, many of our existing salespersons have a Ph.D. or other advanced degree in relevant scientific fields. There are relatively few people that have the necessary knowledge and qualifications to be successful salespersons or support personnel in our industry.

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In certain regions or markets, we may seek to partner with others to assist us with sales, marketing and customer support functions. However, we may be unable to find appropriate third parties with whom to enter into these arrangements. Furthermore, if we do enter into these arrangements, these third parties may not perform as expected.

Our software may incorrectly analyze the raw genomic data produced by our sequencing equipment.

Our sequencing instruments generate raw genomic data from various segments of the genome being sequenced. This data must be arranged into the correct order to reconstruct the original genomic structure of the sample. We have developed software algorithms that facilitate this reconstruction. However, these algorithms rely on statistical models that provide only relative assurance, and not absolute assurance, that the original genomic structure has been reconstructed.

In addition, the genomic data we provide our customers includes a comparison of the sequenced genome against a reference genome to help identify possible mutations or variations. This reference genome is designed to approximate a standard human genome. However, this approximation may not be accurate. If the algorithms we use to reconstruct genomic data incorrectly reconstruct the sequenced genome, or if our reference genome is significantly flawed, the genomic data we deliver could be inaccurate and of little or no use to our customers.

An inability to manage our planned growth or expansion of our operations could adversely affect our business, financial condition or results of operations.

Our business has grown rapidly, and we expect this growth to continue as we expand our sequencing capacity. For example, we had three employees at the end of 2005 and 255 employees as of December 31, 2011. The rapid expansion of our business and addition of new personnel may place a strain on our management and operational systems. To effectively manage our operations and growth, we must continue to expend funds to enhance our operational, financial and management controls, reporting systems and procedures and to attract and retain sufficient numbers of talented employees. If we are unable to expand our genome sequencing capacity and implement improvements to our control systems efficiently and quickly, or if we encounter deficiencies in existing systems and controls, then we will not be able to successfully expand the commercialization of our services. In addition to enhancing our sequencing capacity, our future operating results will depend on our management s ability to:

- implement and improve our sales, marketing and customer support programs and our research and development efforts;
- enhance our operational and financial control systems;
- expand, train and manage our employee base;
- manage the operating expenses of our business as we expand;
- integrate acquired businesses, if applicable; and
- effectively address new issues related to our growth as they arise.

We may not manage our expansion successfully, which could adversely affect our business, financial condition or results of operations.

If we expand our operations outside of the United States, we will face risks that may increase our operating costs.

We plan to expand our operations to include satellite genome sequencing centers outside of the United States. Because the laws of certain countries currently prohibit the export of DNA, we will have to establish local facilities to access those markets and establish a presence in other markets. To date, we have not expanded our

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operations outside the United States. Operating in international markets requires significant resources and management attention and will subject us to regulatory, economic and political risks that are different from those in the United States. Because of our limited experience with international operations, our international expansion efforts may be unsuccessful. In addition, we will face risks in doing business internationally that could increase our operating costs, including the following:

- economic conditions in various parts of the world;
- unexpected and more restrictive laws and regulations, including those laws governing ownership of intellectual property, collection and use of personal information and other privacy considerations, hazardous materials and other activities important to our business;
- new and different sources of competition;
- multiple, conflicting and changing tax laws and regulations that may affect both our international and domestic tax liabilities and result in increased complexity and costs;
- the difficulty of managing and staffing satellite genome sequencing centers and the increased travel, infrastructure and legal compliance costs associated with multiple international locations;
- difficulties in enforcing contracts and collecting accounts receivable, especially in developing countries;
- fluctuations in exchange rates; and
- tariffs and trade barriers, import/export controls and other regulatory or contractual limitations on our ability to sell or develop our services in certain foreign markets.

The success of the expansion of our business internationally will depend, in part, on our ability to anticipate and effectively manage these and other risks associated with international operations. Our failure to manage any of these risks successfully could increase our operating costs.

We may experience delays or incur significant expenses in becoming certified under the Clinical Laboratory Improvement Amendments of 1988.

Although we are not currently subject to the Clinical Laboratory Improvement Amendment of 1988, or CLIA, we have recently initiated an internal program to seek CLIA certification. CLIA, which extends federal oversight over clinical laboratories by requiring that they be certified by the federal government or by a federally approved accreditation agency, is designed to ensure the quality and reliability of clinical laboratories by mandating specific standards in the areas of personnel qualifications, administration and participation in proficiency testing, patient test management, quality control, quality assurance and inspections. In order to receive a CLIA certification, we will have to expend time, money and effort to ensure that we meet the applicable quality and safety requirements, which may divert the attention of management and disrupt our core business operations. In addition, it may take us longer and/or require us to spend considerably more than planned resources to achieve CLIA certification.

Because the market for genome sequencing is relatively new and rapidly evolving, we may become subject to additional future governmental regulation, which may place additional cost and time burdens on our operations.

We are subject, both directly and indirectly, to the adverse impact of existing and potential future government regulation of our operations and markets. The life sciences and pharmaceutical industries, which are significant target markets for our services, have historically been heavily regulated. There are comprehensive federal and state laws regarding matters such as the privacy of patient information and research in genetic

engineering. For example, if we inadvertently disclose private patient information in the course of providing our sequencing services, we could be prosecuted for violations of federal law.

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Legislative bodies or regulatory authorities may adopt additional regulation that adversely affects our market opportunities. They could also extend existing regulations to cover our services. For example, medical diagnostic products may, depending on their intended use, be regulated as medical devices by the Food and Drug Administration, or FDA, if they are:

- used in the diagnosis of disease or other conditions;
- used in the cure, mitigation, treatment or prevention of disease; or
- intended to affect the structure or any function of the body.

Medical devices generally cannot be marketed without first receiving clearance or approval (depending on the regulatory pathway) from the FDA. We do not believe that our sequencing services are currently subject to the FDA s medical device requirements because we do not intend our services to be used for the diagnosis of disease. However, we cannot control how the genomic information we provide will be used by our customers.

In addition, the FDA is focusing on our market, which has created uncertainty regarding the regulatory landscape. The FDA has recently taken actions suggesting that it interprets the applicable regulations expansively to cover certain genomic devices and services, particularly those sold directly to consumers. Since June 2010, the FDA has sent numerous letters to certain companies in this market, including 23andMe, Inc., deCODE Genetics, Knome, Inc., Navigenics, Inc. and Pathway Genomics. In these letters, the FDA noted that it considers genetic tests marketed by these companies to be subject to FDA regulation and, accordingly, unapproved medical devices. Additionally, in March 2011, the FDA held a public two-day meeting discussing the appropriate regulation of the direct-to-consumer genetic tests. The FDA may extend this position to services such as ours. In addition, the FDA may implement new regulations that may be broad enough to cover our operations. Changes to the current regulatory framework, including the imposition of new regulations, could arise anytime, and we may be unable to obtain or maintain FDA or comparable regulatory approval or clearance for our services, if required. For example, the FDA may impose restrictions on the types of customers to which we can market and sell our services and the types of persons whose DNA we may sequence. Also, future legislation may require that patients provide specific consent to have their DNA sequenced. This could require our customers to obtain new consents before they can submit DNA samples to us for sequencing.

In any event, as we look to expand our business to include sequencing services intended to be used for the diagnosis of disease, we will likely become subject to regulation by the FDA or other comparable agencies of other countries, which may require us to obtain regulatory approval or clearance before we can market those services.

These regulatory approval processes may be expensive, time-consuming and uncertain, and our failure to obtain or comply with these approvals or clearances could harm our business, financial condition or operating results.

Disruption to or failure of our data center or other technical systems may disrupt our business and harm our operating results.

We rely on our network infrastructure, data centers, enterprise applications and technology systems for the development and support of our sequencing service, including the preparation, analysis and transmission of data from our sequencing center, as well as for the internal operation of our business. These systems are susceptible to disruption or failure in the event of natural disasters such as a major earthquake, fire, flood, cyber-attack, terrorist attack, telecommunications failure, power outage or other catastrophic event. Further, our data center and our sequencing facility, which houses certain of our technology systems, are located near major earthquake faults. Disruptions to or the failure of our data center or any of these technology systems, including the network connection between our Mountain View facility and our data center, and the resulting loss of critical data, could cause delays in the transmission and analysis of the sequencing data, prevent us from fulfilling our customers orders and severely affect our ability to conduct normal business operations.

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Our term loans contain restrictions that limit our flexibility in operating our business.

In December 2010, we entered into two loan and security agreements, replacing our existing credit facility. In March 2011, we entered into a new loan and security agreement for a term loan and repaid and terminated one of the December 2010 agreements with the proceeds from the new term loan. Our term loans contain various covenants that limit our ability to engage in specified types of transactions. These covenants limit our ability to, among other things:

- sell, transfer, lease or dispose of our assets;
- create, incur or assume additional indebtedness;
- encumber or permit liens on certain of our assets;
- make restricted payments, including paying dividends on, repurchasing or making distributions with respect to our common stock;
- make specified investments (including loans and advances);
- consolidate, merge, sell or otherwise dispose of all or substantially all of our assets; and
- enter into certain transactions with our affiliates.

A breach of any of these covenants or a material adverse change to our business could result in a default under either or both of our term loans. Upon the occurrence of an event of default under our term loans, our lenders could elect to declare all amounts outstanding to be immediately due and payable and terminate all commitments to extend further credit. If we were unable to repay those amounts, the lenders could proceed against the collateral granted to them to secure such indebtedness. We have pledged substantially all of our assets, other than our intellectual property, as collateral under the term loans.

If we fail to retain the services of our key executives or if we are unable to attract and retain skilled personnel, our ability to grow our business and our competitive position would be impaired.

We believe our future success will depend in large part upon our ability to attract, retain and motivate highly skilled personnel. In particular, we depend highly on the contributions of Clifford A. Reid, Ph.D., our President and Chief Executive Officer, and Radoje Drmanac, Ph.D., our Chief Scientific Officer. The loss of either of these executives could make it more difficult to manage our operations and research and development activities, reduce our employee retention and revenue and impair our ability to compete. If either of these key executives were to leave us unexpectedly, we could face substantial difficulty in hiring qualified successors and could experience a loss in productivity, both during the search for, and integration of, any such successor.

Our research and development, operations and sales and marketing personnel represent a significant asset and serve as the source of our business strategy, scientific and technological innovations and sales and marketing initiatives. As a result, our success substantially depends on our ability to retain and attract personnel for all areas of our organization. Competition for qualified personnel is intense, and we may not be successful in attracting and retaining qualified personnel on a timely basis or on competitive terms, if at all. In addition, many qualified personnel are located outside of Northern California, where we are located, and some qualified personnel that we may recruit may not be interested in relocating. If we are unable to attract and retain the necessary personnel on a cost-effective basis, our ability to grow our business and our competitive position would be impaired.

We may engage in joint ventures or acquisitions that could disrupt our business, cause dilution to our stockholders, reduce our financial resources and result in increased expenses.

In the future, we may enter into joint ventures or acquire other businesses, products or technologies. Because we have not entered into any joint ventures or made any acquisitions to date, our ability to do so successfully is unproven. We may not be able to find suitable partners or acquisition candidates, and we may not be able to complete such transactions on favorable terms, if at all, or successfully integrate any acquired business, products or technologies into our operations. If we do enter into any joint ventures or complete acquisitions, we may not strengthen our competitive

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position or achieve our goals; alternatively these transactions may be viewed negatively by customers or investors. In addition, we may have difficulty integrating personnel, technologies and operations from acquired businesses and retaining and motivating key personnel from those businesses. Joint ventures and acquisitions may disrupt our ongoing operations, divert management from day-to-day responsibilities and increase our expenses. Future acquisitions may reduce our cash available for operations and other uses, and could result in an increase in amortization expense related to identifiable intangible assets acquired, potentially dilutive issuances of equity securities or the incurrence of debt. We cannot predict the number, timing or size of future joint ventures or acquisitions, or the effect that any such transactions might have on our operating results.

We incur significant costs as a result of operating as a public company, and our management devotes substantial time to new compliance initiatives. We may fail to comply with the rules that apply to public companies, including section 404 of the Sarbanes-Oxley Act of 2002.

We have incurred and will continue to incur significant legal, accounting and other expenses as a public company, including costs resulting from public company reporting obligations under the Securities Exchange Act of 1934, as amended, and regulations regarding corporate governance practices. The listing requirements of The NASDAQ Global Market require that we satisfy certain corporate governance requirements relating to director independence, distributing annual and interim reports, stockholder meetings, approvals and voting, soliciting proxies, conflicts of interest and a code of conduct. Our management and other personnel will need to devote a substantial amount of time to all of these requirements. Moreover, the reporting requirements, rules and regulations will increase our legal and financial compliance costs and will make some activities more time-consuming and costly. These reporting requirements, rules and regulations, coupled with the increase in potential litigation exposure associated with being a public company, could make it more difficult for us to attract and retain qualified persons to serve on our board of directors or board committees or to serve as executive officers. In addition, the Sarbanes-Oxley Act of 2002, or Sarbanes-Oxley Act, and the related rules of the Securities and Exchange Commission require that we maintain effective internal control over financial reporting and disclosure controls and procedures. In particular, our management and independent registered public accounting firm are required to provide a report on the effectiveness of our internal control over financial reporting with our annual report, as required by Section 404 of the Sarbanes-Oxley Act. During the course of our review and testing, we may identify deficiencies and be unable to remediate them before we must provide the required reports. We or our independent registered public accounting firm may not be able to conclude on an ongoing basis that we have effective internal control over financial reporting, which could harm our operating results, cause investors to lose confidence in our reported financial information and cause the trading price of our stock to fall.

Our compliance with Section 404 may require that we incur substantial expense and expend significant management time on compliance-related issues. Moreover, if we are unable to comply with the requirements of Section 404 in a timely manner, or if we or our independent registered public accounting firm is unable to conclude that our internal control over financial reporting is effective or otherwise identifies material weaknesses in our internal control, the market price of our stock would likely decline and we could be subject to sanctions or investigations by NASDAQ, the Securities and Exchange Commission or other regulatory authorities, which would require additional financial and management resources.

Our ability to use our net operating loss carryforwards to offset future taxable income may be subject to certain limitations.

In general, under Section 382 of the Internal Revenue Code of 1986, as amended, or the Code, a corporation that undergoes an ownership change is subject to limitations on its ability to use its pre-change net operating loss carryforwards, or NOLs, to offset future taxable income. If the Internal Revenue Service challenges our analysis that our existing NOLs will not expire before utilization due to previous ownership changes, our ability to use our NOLs could be limited by Section 382 of the Code. Future changes in our stock ownership, some of which are outside of our control, could result in an ownership change under Section 382 of the Code. Furthermore, our ability to use NOLs of companies that we may acquire in the future may be subject to limitations. For these reasons, we may not be able to use a material portion of the NOLs reflected on our balance sheet, even if we attain profitability.

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Unfavorable global economic conditions could adversely affect our business, financial condition or results of operations.

Our results of operations could be adversely affected by general conditions in the global economy and in the global financial markets. The recent global financial crisis caused extreme volatility and disruptions in the capital and credit markets. A severe or prolonged economic downturn, such as the recent global financial crisis, could result in a variety of risks to our business, including, reductions or delays in planned research and development and other expenditures by our customers or decreased funding of genomic research by governmental entities. A weak or declining economy could also put strain on our suppliers, possibly resulting in supply disruption, or cause our customers to delay making payments for our services. Any of the foregoing could harm our business.

Risks Related to Intellectual Property

We currently are, and could in the future be, subject to litigation regarding patent and other proprietary rights that could harm our business.

Our commercial success depends in part on not infringing patents and proprietary rights of third parties. On August 3, 2010, Illumina, Inc. and Solexa, Inc. (an entity acquired by Illumina) filed a complaint in the U.S. District Court in Delaware alleging patent infringement by us. The complaint alleges that our Complete Genomics Analysis Platform, and in particular our combinatorial probe anchor ligation technology, infringes upon three patents held by Illumina and Solexa. The complaint seeks, among other things, a preliminary and permanent injunction against us from infringing these patents and unspecified monetary damages. We have incurred and anticipate that we will continue to incur substantial time and expense in defending against this complaint. If we were found to infringe one or more valid claims of a patent-in-suit and if the district court granted an injunction on that basis, we may be forced to redesign portions of our sequencing process, seek a license or cease the infringing activity. Redesigning portions of our sequencing process may take substantial time and resources and may delay our ability to generate revenue. In addition, a license to the necessary patent rights may not be available on commercially reasonable terms, if at all. In the event that the district court grants an injunction and we are unsuccessful in redesigning our sequencing process or obtaining a license, we may be forced to cease our sequencing operations altogether. See Part I, Item 3. Legal Proceedings.

As we enter our markets, it is possible other competitors will claim that our services infringe their intellectual property rights as part of a business strategy to impede our successful entry into those markets. Such competitors and other third parties may have obtained and may in the future obtain patents covering products or processes that are similar to or may include steps or processes used in our sequencing technology, allowing them to claim that the use of our technologies infringes these patents. In particular, we are aware of issued U.S. patents owned by competitors and other third parties, including Illumina, to which we do not have licenses that may relate to our sequencing technology and which pertain to, among other things:

- sample preparation techniques;
- processes for making nucleic acid templates, or library construction;
- processes for making DNBs from nucleic acid templates;
- nucleic acid arrays;
- methods of making arrays of DNBs;
- sequencing methods, including those involving ligation;
- identifying genomic sequences on nucleic acid arrays;

devices and apparatus used in nucleic acid detection systems, including optical systems; and

information processing systems including software for base calling, sequence mapping and assembly.

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Some of the third parties that own these patents, including Illumina, have strong economic incentives, and substantial financial resources, to claim that we are infringing their patent rights. In a patent infringement claim against us, we may assert, as a defense, that we do not infringe the relevant patent claims, that the patent is invalid or both. The strength of our defenses will depend on the patents asserted, the breadth and scope of the construction of the claims of these patents, our ability to identify prior art in order to invalidate the asserted patent and on other factors.

However, we could be unsuccessful in advancing non-infringement and/or invalidity arguments in our defense. In the United States, issued patents enjoy a presumption of validity, and the party challenging the validity of a patent claim must present clear and convincing evidence of invalidity, which is a high burden of proof. Conversely, the patent owner need only prove infringement by a preponderance of the evidence, which is a lower burden of proof.

If we were found by a court to have infringed a valid patent claim, we could be prevented from using the patented technology or be required to pay the owner of the patent rights for the rights to use that technology and/or pay monetary damages, including, for example, treble damages if we are found to have willfully infringed. If we decide to pursue a license to one or more of these patents, we may not be able to obtain such a license on commercially reasonable terms, if at all, or the license we obtain may require us to pay substantial royalties or grant cross licenses to our patent rights. For example, if the relevant patent is owned by a competitor, that competitor may choose not to license patent rights to us, as it would be under no obligation to do so. If we decide to develop alternative technology, we may not be able to do so on a timely or cost-effective manner, if at all.

In addition, because patent applications can take years to issue and are often afforded confidentiality for some period of time, there may currently be pending applications, unknown to us, which later result in issued patents that processes in our sequencing technology infringe. Processes in our sequencing technology may also infringe existing issued patents of which we are currently unaware. Even though we own or have other rights to patents, these patents do not provide us with the freedom to offer our sequencing services unimpeded by the patent rights of others. For example, we may be required to pursue or defend a patent infringement action in order to protect our intellectual property rights or practice our sequencing technology. If we expand our business to include sequencing services intended to be used for the diagnosis of disease, it may be necessary to license patents related to such services.

It is possible that, in addition to our current litigation, we may in the future receive communications from competitors and others alleging that we may be infringing their patents, trade secrets or other intellectual property rights or offering licenses to such intellectual property or threatening litigation. For example, an educational institution has invited us to engage in negotiations for the license of certain of that institution s patent rights. We have not yet determined whether we will seek such a license. In addition to patent infringement claims, third parties may assert copyright, trademark or other proprietary rights against us. We may not be able to successfully defend against the claims asserted by Illumina, or future claims, and our business may suffer if we are found to have infringed upon the patents held by Illumina, or if future claims are brought against us.

We may not be able to protect our patent rights or other intellectual property which could impair our ability to compete effectively.

We depend on proprietary technology for our success and ability to compete. If others are able to reproduce our technology, our business will suffer significantly unless we can prevent them from competing with us. To protect our proprietary technology, we rely on patents and other intellectual property laws, as well as nondisclosure agreements, licensing arrangements and confidentiality provisions. U.S. patent, copyright and trade secret laws afford us only limited protection, and the laws of some foreign countries do not protect proprietary rights to the same extent.

We have licensed, from Callida Genomics, Inc., U.S. and international patents and patent applications relating to our business. Because the issuance of a patent is not conclusive of its validity or enforceability, our existing patent rights, and rights we may obtain in the future, may not provide us with meaningful protection. The patent

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rights on which we rely may be challenged and invalidated or may be interpreted not to be broad enough to cover the critical components of our technology. Our pending patent applications may have their claims limited or may not result in issued patents. Moreover, our patent rights become more limited as owned or licensed patents begin to expire in 2014. We will be able to protect our technologies from unauthorized use by third parties only to the extent that valid and enforceable patents or other proprietary rights cover them. Even if we have valid and enforceable patents or other proprietary rights, competitors may be able to design alternative methods or devices that avoid infringement of those patents or rights. Our key patent rights are licensed from Callida, which is owned by our Chief Scientific Officer and his spouse. If we breach the terms of these licenses, or if our relationship with Callida or its owners deteriorates, Callida may seek to terminate the licenses. If we lose our rights to use these patents, we may be forced to re-design our sequencing technology, which would be expensive and may not be possible.

The patent positions of biotechnology companies, including us, can be highly uncertain and involve complex and evolving legal and factual questions. No consistent policy regarding the breadth of claims allowed in biotechnology patents has emerged to date in the United States. Legal developments may preclude or limit the patent protection available for our sequencing technology.

Despite our efforts to protect our proprietary rights, attempts may be made to copy or reverse engineer aspects of our sequencing technology or to obtain and use information that we regard as proprietary. Accordingly, we may be unable to protect our proprietary rights against unauthorized third-party copying or use. Furthermore, policing the unauthorized use of our intellectual property is difficult. Litigation may be necessary in the future to enforce our intellectual property rights, to protect our trade secrets or to determine the validity and scope of the proprietary rights of others. Litigation could result in substantial costs and diversion of resources and could harm our business.

We may incur substantial costs as a result of our current, or future, litigation or other proceedings relating to patent and other proprietary rights.

The genomic sequencing industry includes several large companies that have rights to many broad issued patents and pending patent applications. Competitors in this industry have fiercely litigated their patent positions and alleged infringements by others. For example, Illumina and Affymetrix were involved in long and expensive patent litigation relating to DNA sequencing technology. This litigation resulted in a settlement involving the payment of $90 million by one party to the other.

Our involvement in intellectual property litigation, including our current litigation with Illumina, or administrative proceedings could result in significant expense. Some of our competitors, including Illumina, Life Technologies and Affymetrix, have considerable resources available to them. We, on the other hand, are an early-stage commercial company with comparatively few resources available to us to engage in costly and protracted litigation. Intellectual property infringement claims asserted against us, whether with or without merit, could be costly to defend and could limit our ability to use some technologies in the future. They will be time consuming, will divert our management s and scientific personnels attention and may result in liability for substantial damages. For example, we have incurred and anticipate that we will continue to incur significant expense and substantial time in defending against our current intellectual property infringement dispute with Illumina. In addition, our standard customer contract requires us to indemnify our customers for claims alleging that any of our products misappropriate or violate any third party patent, copyright, trade secret or other intellectual property or proprietary rights.

If third parties file patent applications or are issued patents claiming technology also claimed by us in pending applications, we may be required to participate in interference or other proceedings with the U.S. Patent Office or U.S. Courts or in other proceedings outside the United States, including oppositions, to determine priority of invention or patentability. Even if we are successful in these proceedings, we may incur substantial costs, and the time and attention of our management and scientific personnel will be diverted in pursuit of these proceedings.

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We may not be able to enforce our intellectual property rights throughout the world.

The laws of some foreign countries do not protect intellectual property rights to the same extent as the laws of the United States. Many companies have encountered significant problems in protecting and defending intellectual property rights in certain foreign jurisdictions. The legal systems of some countries, particularly developing countries, do not favor the enforcement of patents and other intellectual property protection, especially those relating to biotechnology. This could make it difficult for us to stop the infringement of our patents or the misappropriation of our other intellectual property rights. For example, many foreign countries have compulsory licensing laws under which a patent owner must grant licenses to third parties. In addition, many countries limit the enforceability of patents against third parties, including government agencies or government contractors. In these countries, patents may provide limited or no benefit.

Proceedings to enforce our patent rights in foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business. Accordingly, our efforts to protect our intellectual property rights in such countries may be inadequate. In addition, changes in the law and legal decisions by courts in the U.S. and foreign countries may affect our ability to obtain adequate protection for our technology and the enforcement of intellectual property.

Confidentiality agreements with employees and others may not adequately prevent disclosures of our trade secrets and other proprietary information.

We rely in part on trade secret protection to protect our confidential and proprietary information and processes. However, trade secrets are difficult to protect. We have taken measures to protect our trade secrets and proprietary information, but these measures may not be effective. We require new employees and consultants to execute confidentiality agreements upon the commencement of an employment or consulting arrangement with us. These agreements generally require that all confidential information developed by the individual or made known to the individual by us during the course of the individual s relationship with us be kept confidential and not disclosed to third parties. These agreements also generally provide that inventions conceived by the individual in the course of rendering services to us will be our exclusive property. Despite these measures, our proprietary information may be disclosed, third parties could reverse engineer our sequencing technologies and others may independently develop substantially equivalent proprietary information and techniques or otherwise gain access to our trade secrets. Costly and time-consuming litigation could be necessary to enforce and determine the scope of our proprietary rights, and failure to obtain or maintain trade secret protection could adversely affect our competitive business position.

Risks Related to Ownership of Our Common Stock

Our stock price is volatile and purchasers of our common stock could incur substantial losses.

Our stock price is volatile, and from December 31, 2010 to February 24, 2012, the trading prices of our stock have ranged from $18.55 to $2.21 per share. The market price of our common stock may fluctuate significantly in response to a number of factors. These factors include those discussed in this Risk Factors section of this Annual Report and others such as:

- quarterly variations in our results of operations or those of our competitors;
- changes in financial estimates or guidance, including our ability to meet our future revenue and operating profit or loss estimates or guidance;
- changes in earnings estimates or recommendations by securities analysts;
- announcements by us or our competitors of new products or services, significant contracts, commercial relationships, acquisitions, capital commitments or changes in the outlook of the market for genomic sequencing products and services;
- developments with respect to intellectual property rights;

our commencement of, or involvement in, litigation;

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announcements regarding equity or debt financing transactions;

any major changes in our board of directors or management;

changes in governmental regulations; and

a decrease in government funding of research and development or a slowdown in the general economy.

In recent years, the stock market in general, and the market for technology and life sciences companies in particular, has experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of those companies. Broad market and industry factors may seriously affect the market price of our common stock, regardless of our actual operating performance. In addition, in the past, following periods of volatility in the overall market and the market price of a particular company s securities, securities class action litigation has often been instituted against these companies. This litigation, if instituted against us, could result in substantial costs and divert our management s attention and resources.

If securities or industry analysts do not publish research or reports about our business or if they issue an adverse or misleading opinion regarding our stock, our stock price and trading volume could decline.

The trading market for our common stock will be influenced by the research and reports that industry or securities analysts publish about us or our business. If any of the analysts who cover us issue an adverse or misleading opinion regarding us, our business model, technology or stock performance, our stock price would likely decline. If one or more of these analysts cease coverage of us or fail to publish reports on us regularly, we could lose visibility in the financial markets, which in turn could cause our stock price or trading volume to decline. Moreover, the unpredictability of our financial results likely reduces the certainty, and therefore reliability, of the forecasts by securities or industry analysts of our future financial results, adding to the potential volatility of our stock price.

Our directors, executive officers and principal stockholders and their respective affiliates will continue to have substantial influence over us and could delay or prevent a change in corporate control.

Our directors, executive officers and the holders of more than 5% of our common stock, together with their affiliates, beneficially own approximately 78% of our outstanding common stock based on the number of shares outstanding on December 31, 2011. These stockholders, acting together, have significant influence over the outcome of matters submitted to our stockholders for approval, including the election of directors and any merger, consolidation or sale of all or substantially all of our assets. In addition, these stockholders, acting together, have significant influence over our management and affairs. Accordingly, this concentration of ownership might harm the market price of our common stock by:

delaying, deferring or preventing a change in control;

impeding a merger, consolidation, takeover or other business combination involving us; or

discouraging a potential acquiror from making a tender offer or otherwise attempting to obtain control of us.

Future sales of shares by existing stockholders could cause our stock price to decline.

If our existing stockholders sell, or if the market believes our existing stockholders will sell, substantial amounts of our common stock in the public market, the trading price of our common stock could decline significantly. As of February 29, 2012, we had 33,418,720 shares of common stock outstanding. On August 23, 2011, 17,817,281 shares that were previously subject to contractual lock-up agreements entered into by certain of our stockholders with the underwriters in connection with our follow-on public offering became freely tradable, except for shares of common stock held by directors, executive officers and our other affiliates, which are subject to volume limitations under Rule 144 of the Securities Act of 1933, as amended.

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Certain of our existing stockholders have demand and piggyback rights to require us to register with the SEC up to approximately 20.0 million shares of our common stock, including shares issuable upon exercise of outstanding options. If we register these shares of common stock, the stockholders would be able to sell those shares freely in the public market, subject to the volume limitations described above.

We also registered 6,468,272 shares of our common stock that are subject to outstanding stock options, RSUs and reserved for issuance under our equity plans. These shares can be freely sold in the public market upon issuance, subject to vesting restrictions.

Provisions in our charter documents and under Delaware law could discourage a takeover that stockholders may consider favorable and may lead to entrenchment of management.

Our amended and restated certificate of incorporation and amended and restated bylaws contain provisions that could delay or prevent changes in control or changes in our management without the consent of our board of directors. These provisions include the following:

- a classified board of directors with three-year staggered terms, which may delay the ability of stockholders to change the membership of a majority of our board of directors;
- no cumulative voting in the election of directors, which limits the ability of minority stockholders to elect director candidates;
- the exclusive right of our board of directors to elect a director to fill a vacancy created by the expansion of the board of directors or the resignation, death or removal of a director, which prevents stockholders from being able to fill vacancies on our board of directors;
- the ability of our board of directors to authorize the issuance of shares of preferred stock and to determine the price and other terms of those shares, including preferences and voting rights, without stockholder approval, which could be used to significantly dilute the ownership of a hostile acquiror;
- the ability of our board of directors to alter our bylaws without obtaining stockholder approval;
- the required approval of at least 66 $^{2}/3\%$ of the shares entitled to vote at an election of directors to adopt, amend or repeal our bylaws or repeal the provisions of our amended and restated certificate of incorporation regarding the election and removal of directors;
- a prohibition on stockholder action by written consent, which forces stockholder action to be taken at an annual or special meeting of our stockholders;
- the requirement that a special meeting of stockholders may be called only by the chairman of the board of directors, the chief executive officer, the president or the board of directors, which may delay the ability of our stockholders to force consideration of a proposal or to take action, including the removal of directors; and
- advance notice procedures that stockholders must comply with in order to nominate candidates to our board of directors or to propose matters to be acted upon at a stockholders meeting, which may discourage or deter a potential acquiror from conducting a solicitation of proxies to elect the acquiror s own slate of directors or otherwise attempting to obtain control of us.

We are also subject to the anti-takeover provisions contained in Section 203 of the Delaware General Corporation Law. Under Section 203, a corporation may not, in general, engage in a business combination with any holder of 15% or more of its capital stock unless the holder has held the stock for three years or, among other exceptions, the board of directors has approved the transaction.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

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ITEM 2. PROPERTIES

We lease approximately 66,000 square feet of office and laboratory space at our headquarters in Mountain View, California, under a lease that expires in August 2016. We lease approximately 19,000 square feet of additional office space in Mountain View, California, under a lease that expires in March 2013. We also lease approximately 11,000 square feet of office and laboratory space in Sunnyvale, California, under a lease that expires in August 2016. These facilities contain our genome centers and laboratory and non-laboratory personnel. Our business plan requires expansion and we believe space for additional genome centers, laboratory and non-laboratory expansion near our Mountain View facility or in other locales is readily available.

ITEM 3. LEGAL PROCEEDINGS

On August 3, 2010, a patent infringement lawsuit was filed by Illumina, Inc. and Solexa, Inc. (an entity acquired by Illumina), or the plaintiffs, against us in the U.S. District Court in Delaware. On November 9, 2010, the U.S. District Court in Delaware granted our motion to transfer the case to the Northern District of California. The case caption is *Illumina, Inc. and Solexa, Inc. v. Complete Genomics, Inc.*, Civil Action No. 3:10-cv-05542. The complaint alleges that our Complete Genomics Analysis Platform, and in particular our combinatorial probe anchor ligation technology, infringes upon three patents held by Illumina and Solexa. The plaintiffs seek unspecified monetary damages and injunctive relief. If we are found to infringe one or more valid claims of a patent-in-suit and if the district court grants an injunction, we may be forced to redesign portions of our sequencing process, seek a license, cease the infringing activity and/or pay monetary damages, including, for example, treble damages if we are found to have willfully infringed. On September 23, 2010, we filed our answer to the complaint as well as our counterclaims against the plaintiffs. On November 9, 2010, the U.S. District Court in Delaware granted our motion to transfer the case to the Northern District of California. On May 5, 2011, the Court entered a stipulated order to dismiss two patents from the lawsuit. The dismissal is without prejudice but includes conditions on the ability to file lawsuits on these patents, including a limitation that Illumina may not re-file such lawsuits against us until the later of (1) August 1, 2012, or (2) the exhaustion of all appeal rights in both (a) the pending reexaminations in the U.S. Patent and Trademark Office and (b) the pending civil litigation in which these patents are also asserted, *Life Technologies Corp. v. Illumina*, Case No. 3:11-cv-00703 (S.D. Cal.). We believe that we have substantial and meritorious defenses to the plaintiffs claims and intend to vigorously defend our position. However, a negative outcome in this matter could have a material adverse effect on our financial position, results of operations, cash flows and business. In addition, we have incurred and anticipate that we will continue to incur significant expense and substantial time in defending these claims. For more information regarding the risk of this litigation and future litigation, please see Risk Factors We currently are, and could in the future be, subject to litigation regarding patent and other proprietary rights that could harm our business and We may incur substantial costs as a result of our current, or future, litigation or other proceedings relating to patent and other proprietary rights. We are not currently able to estimate the potential loss, if any, that may result from this litigation.

From time to time, we may become involved in other legal proceedings and claims arising in the ordinary course of our business. Other than as described above, we are not currently a party to any legal proceedings the outcome of which, if determined adversely to us, we believe would individually or in the aggregate have a material adverse effect on our business, operating results, financial condition or cash flows.

ITEM 4. MINE SAFETY DISCLOSURES

None.

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PART II

ITEM 5. MARKET FOR REGISTRANT S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER REPURCHASE OF EQUITY SECURITIES

Market Information for Common Stock

Our common stock has been traded on The NASDAQ Global Market under the symbol of GNOM since it began trading on November 11, 2010. The following table sets forth on a per share basis, for the periods indicated, the low and high sale prices of our common stock as reported by The NASDAQ Global Market.

	Low	High
2010		
Fourth Quarter	$ 6.60	$ 8.98
2011		
First Quarter	$ 6.91	$ 9.16
Second Quarter	$ 9.01	$ 18.55
Third Quarter	$ 5.48	$ 15.70
Fourth Quarter	$ 2.57	$ 6.19

As of February 29, 2012, there were approximately 30 holders of record of our common stock. In addition, we believe that a significant number of beneficial owners of our common stock held their shares in street name.

Dividend Policy

We have never declared or paid any cash dividends on our common stock. We currently intend to retain all future earnings, if any, for use in our business and do not anticipate paying any cash dividends on our common stock in the foreseeable future. In addition, the consent of our lenders under our term loans is required for us to declare or pay any cash dividends pursuant to the provisions of the term loans.

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Performance Graph

The following graph shows the cumulative total return of an investment of $100 cash on November 11, 2010, the date our shares began trading on The NASDAQ Global Market, for our common stock, the NASDAQ Composite Index and the Morningstar Biotechnology index. The stock price performance shown on the graph is not necessarily indicative of future price performance, and we do not make or endorse any predictions as to future stockholder returns. This graph is not soliciting material, is not deemed filed with the SEC and is not to be incorporated by reference into any filing of Complete Genomics, Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, whether made before or after the date hereof and irrespective of any general incorporation language in any such filing.

Unregistered Sales of Equity Securities and Use of Proceeds

1. On March 25, 2011, in connection with the entry into the Oxford Loan Agreement, we issued to Oxford warrants to purchase an aggregate of 160,128 shares of our common stock at an exercise price of $7.495 per share. The warrants expire on the 7th anniversary of the issuance date. We also agreed to provide Oxford certain registration rights covering the shares issuable upon exercise of the warrant.

2. On June 8, 2011, we issued to SCV-CG, LLC 159,658 shares of our common stock pursuant to the net exercise of a warrant originally issued on June 22, 2010 with an exercise price of $1.50 per share.

3. On June 8, 2011, we issued to SCV-CG, LLC 42,575 shares of our common stock pursuant to the net exercise of a warrant originally issued on June 22, 2010 with an exercise price of $1.50 per share.

4. On June 8, 2011, we issued to SCV-CG, LLC 255,452 shares of our common stock pursuant to the net exercise of a warrant originally issued on June 22, 2010 with an exercise price of $1.50 per share.

5. On June 13, 2011, we issued to Oxford Finance Corporation 21,694 shares of common stock pursuant to the net exercise of a warrant originally issued on August 12, 2009 with an exercise price of $7.56 per share.

6. On June 17, 2011, we issued to Atel Ventures, Inc. 26,487 shares of our common stock pursuant to the net exercise of a warrant originally issued on December 17, 2010 with an exercise price of $7.22 per share.

The warrant described in Item (1) above and the shares of our common stock described in Item (2) (6) above were issued in reliance upon exemptions from the registration requirements of the Securities Act pursuant to Section 4(2) of the Securities Act and Rule 506 promulgated thereunder.

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ITEM 6. SELECTED FINANCIAL DATA

The following selected historical annual financial information has been derived from our audited financial statements. The information below is not necessarily indicative of our future results of operations and should be read in conjunction with Item 1A, Risk Factors, Item 7, Management s Discussion and Analysis of Financial Condition and Results of Operations, and Item 8, Financial Statements and Supplementary Data in this Annual Report in order to fully understand the factors that may affect the comparability of the information presented below:

	Years Ended December 31,				
	2011	2010	2009	2008	2007
	(in thousands, except share and per share amounts)				
Statement of Operations Data:					
Revenue	$ 19,344	$ 9,389	$ 623	$	$
Loss from operations	(69,295)	(47,653)	(33,585)	(27,857)	(12,201)
Net loss	$ (72,348)	$ (57,687)	$ (35,949)	$ (28,394)	$ (12,253)
Net loss attributed to common stockholders	$ (72,348)	$ (58,092)	$ (35,949)	$ (28,394)	$ (12,253)
Basic and diluted net loss attributed to common stockholders	$ (2.40)	$ (13.60)	$ (386.56)	$ (369.36)	$ (211.00)
Shares used to compute basic and diluted net loss attributed to common stockholders	30,179,126	4,271,176	92,998	76,873	58,072
Balance Sheet Data:					
Cash and cash equivalents	$ 77,074	$ 68,918	$ 7,765	$ 6,186	$ 4,260
Working capital	67,277	61,333	2,964	741	1,845
Total assets	130,203	103,160	30,278	15,754	8,762
Current and long-term notes payable	23,261	13,301	7,950	11,697	3,473
Convertible preferred stock warrant liability			1,553	1,100	386
Convertible preferred stock			85,833	45,622	20,223
Total stockholders equity (deficit)	82,614	73,636	(77,690)	(45,154)	(17,121)

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

This Annual Report on Form 10-K contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended (the Exchange Act), which are subject to the safe harbor created by those sections. Forward-looking statements are based on our management s beliefs and assumptions and on information currently available to our management. All statements other than statements of historical factors are forward-looking statements for purposes of these provisions. In some cases you can identify forward-looking statements by terms such as may, will, should, could, would, expect, plan, anticipate, believe, estimate, project, predict, and potential, and similar expressions intended to identify forward-looking statements. Such forward-looking statements are subject to risks, uncertainties and other important factors that could cause actual results and the timing of certain events to differ materially from future results expressed or implied by such forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those identified below, and those discussed in the section titled Risk Factors in this report. Furthermore, such forward-looking statements speak only as of the date of this report. Except as required by law, we undertake no obligation to update any forward-looking statements to reflect events or circumstances after the date of such statements.

Overview

We are a life sciences company that has developed and commercialized a DNA sequencing platform for whole human genome sequencing and analysis. Our goal is to become the preferred solution for whole human genome sequencing and analysis. Our Complete Genomics Analysis Platform, or CGA Platform, combines our proprietary human genome sequencing technology with our advanced informatics and data management software and our innovative, end-to-end, outsourced service model to provide our customers with data that is immediately ready to be used for genome-based research. We believe that our solution can provide academic, biopharmaceutical, and translational medicine researchers with whole human genome data and analysis at an unprecedented combination of quality, cost and scale without requiring them to invest in in-house sequencing instruments, high-performance computing resources and specialized personnel. By removing these constraints and broadly enabling researchers to conduct large-scale complete human genome studies, we believe that our solution has the potential to advance medical research and expand understanding of the basis, treatment and prevention of complex diseases.

We have targeted our complete human genome sequencing service at academic, governmental and other research institutions, as well as biopharmaceutical and healthcare organizations. In the DNA sequencing industry, whole human genome sequencing is generally deemed to be coverage of at least 90% of the nucleotides in the genome. We perform our sequencing service at our Mountain View, California headquarters facility, which began commercial operation in May 2010. In the near term, we expect to make significant expenditures related to the expansion of our Mountain View sequencing facility and our research and development initiatives, as well as to increase our sales and marketing and general and administrative expenses to support our commercial operations and anticipated growth. In future years, we may construct additional genome centers in the United States and in other strategic markets to accommodate an expected growing, global demand for high-quality, low-cost whole human genome sequencing on a large scale.

Our ability to generate revenue, and the timing of our revenue, will depend on generating new orders and contracts, receiving qualified DNA samples from customers and the rate at which we can convert our backlog of sequencing orders into completed and delivered data and the price per genome contracted with the customer. We define backlog as the number of genomes for which customers have placed orders that we believe are firm and for which no revenue has yet been recorded. As of December 31, 2011, we had a backlog of orders for sequencing over 5,800 genomes. The speed with which we can convert orders into revenue depends principally on:

- the speed with which our customers provide us with qualified samples after submitting an order;
- the rate at which our system can sequence a genome; and
- the rate at which all significant contractual obligations are fulfilled.

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Changes in these variables will cause our results of operations to fluctuate, perhaps significantly. In addition, we are rapidly developing and implementing new generations of sample preparation handling and automation processes, sequencing instruments, and information analysis and storage systems. As a result, we have a very limited history to guide us in predicting variables like equipment failure, throughput yield, customer delivery of qualified genomic samples and other factors that could affect revenue. We also experience delays from time to time due to challenges in implementing these new processes and systems.

We have not been profitable in any period since we were formed. We incurred net losses of $72.3 million, $57.7 million and $35.9 million for the years ended December 31, 2011, 2010 and 2009. We recognized revenue of $19.3 million, $9.4 million and $0.6 million for the years ended December 31, 2011, 2010 and 2009, respectively. As of December 31, 2011, our accumulated deficit was $211.2 million. We believe that, based on our current level of operations and anticipated growth, our cash and cash equivalents balances, our term loans and interest income we earn on these balances, will not be sufficient to meet our anticipated cash requirements for the twelve months beyond the December 31, 2011 balance sheet. Our recurring operating losses and negative cashflow from operations and our requirement for additional funding to execute our business objectives beyond this period gives rise to substantial doubt as to our ability to continue as a going concern.

Although we do not anticipate any material seasonal effects, given our limited operating history as a revenue generating company, our sales cycle is uncertain. In 2011, Pfizer Inc. and The National Institute of Diabetes and Digestive and Kidney Diseases accounted for 15% and 12 % of total revenue, respectively. If demand for our services expands as expected, we do not anticipate that the loss of any individual customer would have a material adverse effect on our future results of operations.

In November 2010, we closed the initial public offering of our common stock, in connection with which we sold 6,000,000 shares of our common stock at a public offering price of $9.00 per share. We received net proceeds of approximately $47.2 million from this transaction. On June 1, 2011, we completed an underwritten public offering of 6,325,000 shares of our common stock at $12.50 per share and received net proceeds of approximately $73.9 million from this transaction.

Critical Accounting Policies and Estimates

Our management s discussion and analysis of our financial condition and results of operations are based on our financial statements that have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of our financial statements requires our management to make estimates, assumptions and judgments that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the applicable periods. Management bases its estimates, assumptions and judgments on historical experience and on various other factors that it believes to be reasonable under the circumstances. Different assumptions and judgments would change the estimates used in the preparation of our financial statements, which, in turn, could materially change the results from those reported. Our management evaluates its estimates, assumptions and judgments on an ongoing basis. Historically, our critical accounting estimates have not differed materially from actual results. However, if our assumptions change, we may need to revise our estimates, or take other corrective actions, either of which may also have a material adverse effect on our statements of operations, liquidity and financial condition.

Revenue Recognition

We generate revenue from selling our human genome sequencing services. Revenue is recognized when all of the following criteria are met: persuasive evidence of an arrangement exists, title has transferred, the price is fixed or determinable and collectability is reasonably assured. Upon completion of the sequencing process, we ship or make available the research-ready genomic data to the customer. We use shipping documents and third-party evidence to verify shipment of the data. In order to determine whether collectability is reasonably assured, we assess a number of factors, including past transaction history with the customer and the creditworthiness of the

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customer. If we determine that collectability is not reasonably assured, we defer the recognition of revenue until collectability becomes reasonably assured.

Through a signed contract, which may be in the form of a signed agreement or purchase order, we establish persuasive evidence of an arrangement with our customers and whether there is a fixed and determinable price. The contract outlines terms and conditions to determine our obligations associated with the contract. Revenue is recognized, net of discounts and incentives, when the individual genomic data is shipped or made available to customers and upon satisfaction of our obligations. If we have not satisfied our obligations as outlined in the terms and conditions of the contract, revenue is deferred until these obligations are satisfied.

In certain circumstances, we may agree to contract modifications prior to our fulfillment of an arrangement and recognition of related revenue. In these instances, the modifications are accounted for as additional contract obligations or deliverables. Revenue is then allocated to the modified deliverables and recognized when the four general revenue recognition criteria have been met.

We also receive down payments from customers prior to the commencement of the genome sequencing process. Any down payments received are recorded as deferred revenue until we meet all revenue recognition criteria.

In the first quarter of 2011, we adopted the provisions of Accounting Standards Update (ASU) 2009-13, *Revenue Recognition (Topic 605) Multiple-Deliverable Revenue Arrangements* (which amended existing accounting guidance for revenue recognition for multiple-element arrangements). Simultaneously, we created a dedicated customer support team. We applied the provisions ASU 2009-13 on a prospective basis to all revenue arrangements entered into or materially modified since the beginning of 2011.

In general, our multiple element arrangements provide for delivery of research-ready genomic data and technical customer support. We have evaluated the allocation of the arrangement consideration to our deliverables using the relative-selling-price hierarchy required in ASU 2009-13 of vendor specific objective evidence (VSOE), third party evidence (TPE) or our best estimate of selling price (ESP). VSOE is based on the price charged when the element is sold separately and is the price actually charged for that deliverable. We typically are not able to determine VSOE for an element because a substantial majority of the selling prices for our services do not fall within a reasonably narrow range. TPE is determined based on a competitor s price for similar deliverables when sold separately. We typically are not able to determine TPE as we are unable to reliably determine competitor prices for similar deliverables when sold separately. Therefore, we use ESP in our allocation of arrangement consideration to our genome sequencing data and our technical support services.

The objective of ESP is to determine the price at which we would enter into a transaction with the customer if the service were to be sold by us on a standalone basis. Specifically, for such price determination, we consider the cost to provide the service, the targeted margin on that service, the economic conditions and trends, and our ongoing pricing strategy and policies.

The revenue related to the technical customer support service is recognized on a straight-line basis, beginning from the date the revenue related to the delivery of the genome sequencing data is recognized, over the time period during which the technical support services are provided.

Estimated Useful Lives of Property and Equipment

We depreciate our property and equipment using a straight-line method over their estimated useful lives. Our property primarily consists of lease improvements, and our equipment primarily consists of our sequencing instruments and computer equipment used in the sequencing process. While we use our best judgment, based on the useful lives observed for similar technological assets, to determine the useful lives of our sequencing instruments and computer equipment, a significant change in technology or the emergence of an advanced technology could result in a shorter useful life than we initially anticipated. Our equipment represents the largest asset on our balance sheet, and a subsequent reduction in the useful lives of equipment could have a material impact on our statement of operations.

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Inventory

Inventory consists of the raw materials we use in our sequencing process, work in process and finished goods. Inventories are stated at the lower of cost or market value. Cost is determined using standard costs, which approximate actual costs, on a first-in, first-out basis. Market value is determined as the lower of replacement cost or net realizable value. We regularly review inventory quantities on hand for excess and obsolete inventories, giving consideration to potential obsolescence, our product life cycle and development plans, product expiration and quality issues. We anticipate these estimates to increase in significance as our sequencing volumes increase as expected.

Valuation of Long-Lived Assets

We assess our long-lived assets for impairment every year in the fourth quarter or whenever events or changes in circumstances indicate that the carrying amount of a long-lived asset may not be recoverable. These indicators may include, but are not limited to, significant decreases in the market value of an asset and significant changes in the extent or manner in which an asset is used. If these or other indicators are present, we test for recoverability by measuring the carrying amount of the assets against future net cash flows the assets are expected to generate. If these assets are considered to be impaired, the impairment recognized is measured by the amount by which the carrying amount of the assets exceeds the projected discounted future net cash flows arising from the assets. We make estimates and judgments about future undiscounted cash flows and fair values. Although our cash flow forecasts are based on assumptions that are consistent with our plans, there is significant exercise of judgment involved in determining the cash flow attributable to a long-lived asset over its estimated remaining useful life. Our estimates of anticipated cash flows could be reduced significantly in the future. As a result, the carrying amounts of our long-lived assets could be reduced through impairment charges in the future. There have been no such impairments of long-lived assets to date. However, we anticipate that a future impairment could have a material impact on our consolidated financial statements in light of the dollar significance of the long-lived assets carried on our balance sheet.

Stock-Based Compensation

We recognize compensation expense related to employee stock options and employee stock purchase rights, or awards, based on the estimated fair value of the awards granted using the Black-Scholes option-pricing model. We also use the Black-Scholes option-pricing model to determine the fair value of nonemployee stock option grants. In accordance with authoritative guidance, the fair value of nonemployee stock option grants is re-measured as they vest, and the resulting increase or decrease in value, if any, is recognized as expense during the period the related services are rendered.

The Black-Scholes option-pricing model requires the input of our expected stock-price volatility, the expected life of the awards, risk-free interest rate and expected dividends. Determining these assumptions requires significant judgment. We determined the expected life and volatility rate of the employee stock-option grants based on that of publicly traded companies in the DNA sequencing, diagnostics or personalized medicine industries. When selecting the public companies in these industries to be used in the volatility calculation, we selected companies with comparable characteristics to us, including enterprise value and financial leverage, and removed companies with significantly higher enterprise values, lower risk profiles or established positions within their applicable industry. We also selected companies with historical share price volatility information sufficient to meet the expected life of our stock options. The historical volatility data was computed using the daily closing prices for the selected companies shares during the equivalent period of the calculated expected term of our stock options. Along with using the data of comparable peer companies, we will continue to analyze our own historical expected term and stock price volatility assumptions as more historical data for our own options and common stock, respectively, becomes available. We determined the expected volatility of our stock purchase rights based on our stock price volatility over the six-month life of those rights. The expected life of the nonemployee option grants was based on their remaining contractual life at the measurement date. The risk-free interest rate assumption was based on U.S. Treasury instruments whose terms were consistent with the option s expected life. The expected dividend assumption was based on our history and expectation of dividend payouts.

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In accordance with the authoritative guidance on stock compensation, we only record stock-based compensation expense for stock option awards that are expected to vest. As a result, judgment is also required in estimating the amount of stock-based awards that are expected to be forfeited. Although we estimate forfeitures based on historical experience, actual forfeitures may differ. If actual results differ significantly from these estimates, stock-based compensation expense and our statements of operations could be materially impacted when we record a true-up for the difference.

Income Taxes

We are subject to income taxes in the United States, and we use estimates in determining our provision for income taxes. We use the asset and liability method of accounting for income taxes. Under this method, deferred tax asset or liability account balances are calculated at the balance sheet date using current tax laws and rates in effect for the year in which the differences are expected to affect taxable income.

Recognition of deferred tax assets is appropriate when realization of such assets is more likely than not. We recognize a valuation allowance against our net deferred tax assets if it is more likely than not that some portion of the deferred tax assets will not be fully realizable. This assessment requires judgment as to the likelihood and amounts of future taxable income by tax jurisdiction. At December 31, 2011, we had a full valuation allowance against all of our deferred tax assets.

We adopted the new authoritative guidance to account for uncertain tax positions. None of our currently unrecognized tax benefits would affect our effective income tax rate if recognized, due to the valuation allowance that currently offsets our deferred tax assets. We do not anticipate the total amount of unrecognized income tax benefits relating to tax positions existing at December 31, 2011 will significantly increase or decrease in the next 12 months.

We assess all material positions taken in any income tax return, including all significant uncertain positions, in all tax years that are still subject to assessment or challenge by relevant taxing authorities. Assessing an uncertain tax position begins with the initial determination of the position s sustainability and is measured at the largest amount of benefit that is greater than 50% likely to be realized upon ultimate settlement. As of each balance sheet date, unresolved uncertain tax positions must be reassessed, and we will determine whether:

the factors underlying the sustainability assertion have changed; and

the amount of the recognized tax benefit is still appropriate.

The recognition and measurement of tax benefits requires significant judgment. Judgments concerning the recognition and measurement of a tax benefit might change as new information becomes available.

As of December 31, 2011, we had federal and state net operating loss carryforwards of $174.1 million and $175.2 million, respectively. In addition, as of December 31, 2011, we had federal and state research and development tax credit carryforwards of $3.3 million and $3.7 million, respectively. As of December 31, 2010, we had federal and state net operating loss carryforwards of $108.5 million and $107.7 million, respectively. In addition, as of December 31, 2010, we had federal and state research and development tax credit carryforwards of $2.4 million and $2.6 million, respectively. The federal net operating loss carryforwards will begin to expire in 2026, and the state net operating loss carryforwards will begin to expire in 2016. The federal research and development tax credit carryforwards will expire in 2026, if not used, and the state research and development tax credit carryforwards do not expire. Because of the net operating loss and credit carryforwards, all of our tax years, dating to inception in 2005, remain open to federal tax examinations. Most state tax jurisdictions have four open tax years at any point in time.

Under federal and similar state tax statutes, substantial changes in our ownership, may limit our ability to use our available net operating loss and tax credit carryforwards. The annual limitation, as a result of a change-in-control, may result in the expiration of net operating losses and credits before utilization. We conducted an analysis

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through December 31, 2011 to determine whether ownership changes occurred. We concluded that three ownership changes had occurred. However, as of December 31, 2011, we believe no net operating losses and $0.1 million or research and development tax credits will expire unused as a result of these changes.

Results of Operations

Comparison of the Years Ended December 31, 2011 and 2010

The following table shows the amounts of the listed items from our statements of operations for the periods presented, showing period-over-period changes (in thousands, except for percentages).

	Years ended December 31,		2011 vs. 2010	
	2011	2010	$ Change	% Change
Revenue	$ 19,344	$ 9,389	$ 9,955	106%
Costs and expenses:				
Costs of revenue	28,309		(28,309)	*
Start-up production costs		19,895	19,895	*
Research and development	32,691	21,691	(11,000)	(51)%
General and administrative	14,039	9,345	(4,694)	(50)%
Sales and marketing	13,600	6,111	(7,489)	(123)%
Total operating expenses	88,639	57,042	(31,597)	(55)%
Loss from operations	(69,295)	(47,653)	(21,642)	(45)%
Interest expense	(2,732)	(2,827)	95	3%
Interest and other income (expense), net	(321)	(7,207)	6,886	(96)%
Net loss	$ (72,348)	$ (57,687)	$ (14,661)	(25)%

* result is not meaningful

Revenue

During 2011, we recognized $19.3 million of revenue, compared to $9.4 million during 2010. As a result of continued market adoption of complete human genome sequencing and our expanded marketing and sales activities over the past year, we sequenced significantly more genomes during 2011 than we did during 2010. However, the prices for our genome sequencing service have declined significantly during 2011 thereby partially offsetting the increase in sequenced genomes. Our quarterly revenue was $6.8 million, $5.9 million, $4.2 million and $2.5 million in the first, second, third and fourth quarters, respectively. We recognized revenues for over 600, over 900, over 700 and over 600 genomes in the first, second, third and fourth quarters of 2011, respectively. Our revenues in the third and fourth quarters were lower than revenues in the first and second quarters due to lower average selling prices of delivered genomes in the last two quarters of 2011 and a delay that we experienced in scaling up our sample preparation and library preparation capacity in the fourth quarter, which resulted in a delay in completing sequencing orders.

Costs of Revenue

Before the commercialization of our technology platform for our human genome sequencing services in May 2010, our costs of revenue were presented as start-up production costs. By 2011, our processes were sufficiently mature to shift to a traditional cost of revenue presentation. During 2011, we incurred $28.3 million of costs to provide our genome sequencing service. The $28.3 million of cost of revenue primarily consisted of $17.9 million in salary, benefits and overhead, $8.0 million in equipment depreciation and $2.4 million in materials.

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We anticipate that these costs as a percentage of revenue will fluctuate as we increase sequencing capacity, our capacity utilization changes, the sequencing prices we charge to our customers change and as we continue to improve and automate our human genome sequencing processes. However, we anticipate that our total cost of revenue will increase in absolute dollars as we sequence additional genomes and our revenue grows.

Start-up Production Costs

During 2010, we incurred $19.9 million of start-up production costs to support the development of our genome sequencing service. The $19.9 million of cost of revenue primarily consisted of $13.2 million in salary, benefits and overhead, $5.4 million in equipment depreciation and $1.3 million in materials.

Research and Development

During 2011, we recognized $32.7 million of research and development expenses, compared to $21.7 million during 2010, representing an increase of $11.0 million, or 51%. The increase in research and development expenses was primarily due to an increase in salaries and benefits expense of $2.8 million, an increase of $0.8 million in consulting and outside services and an increase of $5.7 million in supplies and materials to support development activities. The increase in salaries and benefits cost is a result of increased headcount and refocusing of certain research and development resources that had been directed to start-up production activities in the prior year.

We expect to continue to invest in research and development activities as we seek to enhance our sequencing processes, components and systems to improve the yield and throughput and reduce the cost of our sequencing service. Consequently, we believe that in the near future, our research and development expenses will increase.

General and Administrative

General and administrative expenses were $14.0 million for 2011, compared to $9.3 million for 2010, representing an increase of $4.7 million, or 50%. The increase in general and administrative expenses was primarily due to an increase of $1.5 million in employee salaries and benefits, an increase of $1.7 million in legal fees, an increase of $0.5 million in recruiting fees and an increase of $1.0 million in certain expenses related to being a public company such as directors and officers insurance, board of director fees and accounting fees. The increase in salaries and benefits expense was primarily due to increased headcount to support operations as a public company. The increase in legal expense is primarily related to our ongoing litigation with Illumina.

We expect that general and administrative expenses will increase in 2012 to support our operations as a growing public company and ongoing litigation with Illumina.

Sales and Marketing

Sales and marketing expenses were $13.6 million during 2011, compared to $6.1 million during 2010, representing an increase of $7.5 million, or 123%. The increase in sales and marketing expenses is due primarily to an increase in employee salaries and benefits expense of $3.6 million, an increase in consulting and outside services expense of $0.9 million, an increase in marketing activities of $0.9 million and an increase of $0.6 million in stock-based compensation. The increase in expenses was primarily a result of the growth of our sales and marketing organization to support the increased sales activity and overall growth of the Company.

We expect that sales and marketing expenses will continue to increase during 2012 as we increase our headcount for sales and marketing personnel to expand our customer base and to generate growth in terms of both whole human genomes ordered and revenues.

Interest Expense

During 2011 and 2010, we incurred interest expense of $2.7 million and $2.8 million, respectively.

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Interest and Other Income (Expense), Net

Interest and other income (expense), net, was an expense of $0.3 million for 2011 compared to an expense of $7.2 million for 2010. The decreased expense in 2011 was primarily due to the change in the fair value of our warrant liability.

Comparison of the Years Ended December 31, 2010 and 2009

During the year ended December 31, 2009, our results of operations were impacted by the following events, which should be considered when reading the discussion of our results of operations comparing 2010 and 2009:

In 2009, we initiated start-up production activities using resources from our research and development organization. Using these research and development resources for production activities decreased research and development expenses during 2009 by $2.2 million.

In the second quarter of 2009, we implemented temporary cost-reduction initiatives to conserve cash in light of macroeconomic conditions. The temporary cost-reduction initiatives included a salary reduction for all company employees that averaged approximately 50%. The impact of the temporary cost-reduction initiatives on 2009 operating results was a reduction of expenses of approximately $3.4 million, including reductions in employee salaries and benefits of approximately $2.0 million, consulting and outside engineering services of approximately $0.6 million and prototype equipment expenses of approximately $0.4 million. As a result of these cost-reduction initiatives, research and development, general and administrative and sales and marketing expenses decreased $2.7 million, $0.5 million and $0.2 million, respectively, during 2009.

During the fourth quarter of 2009, we reevaluated the expected useful lives of our equipment and determined that for certain of our equipment the useful life should be shortened. Accordingly, we accelerated depreciation of this equipment, resulting in an additional $1.0 million in depreciation expense in the fourth quarter of 2009. Of this $1.0 million charge, approximately $0.5 million was recorded as start-up production costs and approximately $0.5 million was recorded as research and development expense. During 2010, we did not have equipment that required acceleration of depreciation.

The following table shows the amounts of the listed items from our statements of operations for the periods presented, showing period-over-period changes (in thousands, except for percentages).

	Years ended December 31,		2010 vs. 2009	
	2010	2009	$ Change	% Change
Revenue	$ 9,389	$ 623	$ 8,766	1,407%
Operating expenses:				
Start-up production costs	19,895	5,033	14,862	(295)%
Research and development	21,691	22,424	(733)	3%
General and administrative	9,345	4,953	4,392	(89)%
Sales and marketing	6,111	1,798	4,313	(240)%
Total operating expenses	57,042	34,208	22,834	(67)%
Loss from operations	(47,653)	(33,585)	(14,068)	(42)%
Interest expense	(2,827)	(3,465)	638	18%
Interest and other income (expense), net	(7,207)	1,101	(8,308)	(754)%
Net loss	$ (57,687)	$ (35,949)	$ (21,738)	(61)%

Revenue

During 2010, we recognized $9.4 million of revenue, compared to $0.6 million during 2009. This is the result of our revenue activities not beginning until the fourth quarter of 2009.

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Start-up Production Costs

During 2010, we incurred $19.9 million of start-up production costs to support our genome sequencing service, compared to $5.0 million during 2009. These activities include the acceptance testing of customer genomic samples, sample sequencing preparation, sample sequencing, the processing of data generated by our prototype sequencing instruments, continued validation of the production process and optimization of instrument performance. The $14.9 million increase in start-up production costs was primarily due to increases in employee salaries and benefits and stock-based compensation expenses of $5.1 million and $0.1 million, respectively; depreciation expense of $3.9 million; facilities and maintenance expense of $2.5 million; and consulting expense of $0.6 million. We continued to incur start-up costs in excess of revenue during 2010 to initiate and bring our human genome sequencing production process to commercial-scale.

Research and Development

During 2010, we recognized $21.7 million of research and development expenses, compared to $22.4 million during 2009, representing a decrease of $0.7 million, or 3%. While there was only a 3% change in research and development expenses between the two periods, there were changes in the composition of the expenses. The primary changes during 2010 compared to 2009 were: a reduction in depreciation expense of $2.4 million; an increase in salaries and benefits expense and stock-based compensation expense of $1.3 million and $0.7 million, respectively; and an increase in facilities and maintenance costs of $1.1 million. The decrease in depreciation expense was primarily due to the acceleration of depreciation expense of certain equipment in 2009 and the redeployment of equipment to start-up production activities. The increase in salaries and benefits expense was primarily due to a charge associated with an equity grant to one of our founders in 2010 and the temporary cost reduction initiatives implemented during the second quarter of 2009, which resulted in lower overall salaries and benefits expense for 2009. The increase in facilities and maintenance costs was associated with the expansion of our facilities during 2009.

General and Administrative

General and administrative expenses were $9.3 million for 2010, compared to $5.0 million for 2009, representing an increase of $4.3 million, or 89%. In 2010 compared to 2009, employee salaries and benefits and stock-based compensation expense increased $3.1 million and $1.3 million, respectively. The increase in salaries and benefits expense was primarily due to the temporary cost-reduction initiatives implemented during the second quarter of 2009, which resulted in a lower overall salaries and benefits expense for 2009, increased headcount during 2010 and a charge associated with equity grants to two of our founders in 2010. In addition, outside services expense increased by $0.9 million to support patent and litigation activities during 2010.

Sales and Marketing

Sales and marketing expenses were $6.1 million during 2010, compared to $1.8 million during 2009, representing an increase of $4.3 million, or 238%. The increase in sales and marketing expenses was primarily due to an increase in employee salaries and benefits of $2.6 million and an increase in outside services of $0.1 million. The increase in sales and marketing expenses was also impacted by increases in travel expenses and allocation of facilities and maintenance costs of $0.4 million each. The increase in expenses was primarily a result of the growth of our sales and marketing organization to support the increased sales activity and overall order growth in 2010.

Interest Expense

During 2010, we incurred interest expense of $2.8 million, compared to $3.5 million during 2009. The decrease in interest expense was primarily a result of lower amortization of the debt discount related to the common stock warrants issued in 2010, compared to amortization of the debt discount related to the Series D preferred stock warrants issued in 2009. The Series D preferred stock warrants were issued in the first quarter of 2009 while the common stock warrants were issued during the second quarter of 2010, resulting in a shorter period of amortization during 2010 versus 2009.

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Interest and Other Income (Expense), Net

Interest and other income (expense), net, for 2010 was an expense of $7.2 million compared to income of $1.1 million for 2009. The change between the two periods was due to the change in the valuation of our preferred stock warrant and purchase right liabilities.

Liquidity and Capital Resources

Since our inception, we have generated operating losses in every quarter, resulting in an accumulated deficit of $211.2 million as of December 31, 2011. We have financed our operations to date primarily through private placements of preferred stock and promissory notes, borrowings under our credit facilities, proceeds from our initial and follow-on public offerings and term debt. As of December 31, 2011, we had working capital of $67.3 million, consisting of $95.2 million in current assets and $27.9 million in current liabilities. As of December 31, 2010, working capital was $61.3 million, consisting of $79.0 million in current assets and $17.7 million in current liabilities. Cash in excess of immediate operating requirements is invested primarily in money market funds and short-term investments in accordance with our investment policy, primarily with the goals of capital preservation and liquidity maintenance.

We believe that, based on our current level of operations and anticipated growth, our cash and cash equivalent and short-term investment balances, including interest income we earn on those balances, will not be sufficient to meet our anticipated cash requirements for the twelve months beyond the December 31, 2011 balance sheet. Our requirement for additional funding to execute our business objectives beyond this period gives rise to substantial doubt as to our ability to continue as a going concern. Additional sources of capital, which are not in place at this time, may be from the sale of equity or convertible debt securities in a public or private offering, from an additional credit facility, or strategic partnership coupled with an investment in our company or a combination of both. The report of our independent registered public accounting firm on our consolidated financial statements for the year ended December 31, 2011 includes an explanatory paragraph stating that our recurring losses from operations and significant negative cash flow from operations raise substantial doubt on our ability to continue as a going concern. If we raise additional funds through the issuance of convertible debt securities, or other debt securities, these securities could have rights senior to those of our common stock and could contain covenants that restrict our operations. The issuance of any equity securities will also dilute our current stockholders.

There is no assurance that we will be able to raise sufficient additional financing on terms that are acceptable, if at all. Given the risks associated with our business, including our limited operating history and our new business model in an emerging industry, and recent difficulties for life sciences companies raising funds in the capital markets, we cannot guarantee that we will be able to raise additional capital in the amounts we require, if at all. If we fail to raise additional capital, and in sufficient amounts, our ability to operate our business beyond the twelve month period stated above and to meet our long term business objectives will be significantly impaired.

The following table shows our cash flows from operating, investing and financing activities for 2011, 2010 and 2009 (in thousands):

	Years Ended December 31,		
Statements of Cash Flows	**2011**	**2010**	**2009**
Net cash used in operating activities	$ (50,511)	$ (35,018)	$ (26,662)
Net cash used in investing activities	(27,145)	(18,802)	(9,654)
Net cash from financing activities	85,812	114,973	37,895
Net Increase in Cash and Cash Equivalents	$ 8,156	$ 61,153	$ 1,579

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During 2011, 2010 and 2009, our principal sources of liquidity were:

	Years Ended December 31,		
	2011	2010	2009
		(in thousands)	
Cash on-hand at beginning of period	$ 68,918	$ 7,765	$ 6,186
Proceeds from issuance of promissory notes	$	$ 22,243	$ 14,725
Proceeds from issuance of notes payable	$ 20,000	$ 14,000	$
Proceeds from issuance of convertible preferred stock	$	$ 39,402	$ 27,156
Proceeds from issuance of common stock, net of issuance costs	$ 73,932	$ 47,175	$

Operating Activities

Net cash used in operating activities was $50.5 million during 2011 and consisted of a net loss of $72.3 million, offset by noncash items of $18.1 million and a net change in operating assets and liabilities of $3.7 million. Noncash items for 2011 consisted primarily of depreciation expense of $11.7 million and stock-based compensation expense of $4.3 million. The significant items in the change in operating assets and liabilities include an increase in accrued liabilities of $2.4 million and an increase in deferred revenue of $4.3 million, partially offset by an increase in accounts receivable of $1.6 million and an increase in inventory of $1.1million. The increase in deferred revenue was due to increased advance billing arrangements during 2011. The increase in accrued liabilities was primarily due to compensation and benefits including increased sales commissions and bonuses, and employee deposits for our employee stock purchase program that began in May of 2011.

Net cash used in operating activities was $35.0 million during 2010 and consisted of a net loss of $57.7 million, offset by noncash items of $21.0 million and a net change in operating assets and liabilities of $1.7 million. Noncash items for 2010 consisted primarily of the change in valuation of our preferred stock warrant and purchase right liability of $7.2 million, depreciation expense of $8.0 million, expense related to issuance of common stock to our founders of $1.8 million and stock-based compensation expense of $1.8 million. The significant items in the change in operating assets and liabilities include a decrease in prepaid expenses of $4.0 million, an increase in deferred revenue of $4.4 million and increases in inventory and accounts receivable of $3.8 million and $3.7 million, respectively. The decrease in prepaid expenses was due to the use of fully refundable short-term deposits in 2009 to order components used in the construction of sequencers whose specifications were validated during 2010. The increase in inventory was due to materials inventory purchases and work-in process to support customer orders. The increase in deferred revenue was due to advance billing arrangements during 2010. The increase in accounts receivable was due to increased revenue and advance billing arrangements during 2010.

Net cash used in operating activities was $26.7 million during 2009 and consisted of a net loss of $35.9 million, offset by noncash items of $8.0 million and a net decrease in operating assets and liabilities of $1.3 million. Noncash items for 2009 consisted primarily of depreciation expense of $5.2 million, noncash interest expense related to our promissory notes and notes payable of $2.1 million and stock-based compensation expense of $1.4 million, partially offset by the change in valuation of our preferred stock warrant liability of $1.1 million. The significant changes in operating assets and liabilities include increases in deferred rent of $5.0 million, accounts payable of $1.1 million and deferred revenue of $1.3 million, partially offset by an increase in prepaid expenses of $4.7 million and an increase in accounts receivable of $1.3 million. The significant change in deferred rent was due to the difference between rent amounts paid and amounts expensed during 2009 on our facility, while the significant increase in prepaid expenses is due to making fully refundable short-term deposits for components used in the construction of sequencers whose specifications were undetermined. The increase in accounts payable during 2009 was due to increased purchases associated with the start-up of our production facilities during the fourth quarter of 2009. The increases in accounts receivable and deferred revenue were due to revenue recognized in the fourth quarter of 2009 and advance billing arrangements with customers.

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Investing Activities

Net cash used in investing activities were $27.1 million, $18.8 million and $9.7 million in 2011, 2010 and 2009, respectively. The significant increase in 2011 when compared to 2010 was due to the purchase of $52.7 million in available-for-sale securities with the proceeds of our common stock offering in June 2011. These purchases of available-for-sale securities were partially offset by $46.7 million in proceeds from maturities of available-for-sale securities. There were no purchases of available-for-sale securities in 2010 or 2009. We purchased $20.4 million, $18.8 million and $9.7 million in property and equipment in 2011, 2010 and 2009, respectively. The purchases of property and equipment during 2011 and 2010 were primarily for sequencing equipment, computing infrastructure, research and development prototype equipment and facility improvements while the purchases of property and equipment during 2009 were for equipment used in our start-up production and research and development activities and leasehold improvements related to our facilities.

Financing Activities

Net cash provided by financing activities during 2011 of $85.8 million consisted primarily of $73.9 million in net proceeds from our common stock offering in the second quarter of 2011 and $20.0 million in proceeds from our term loan with Oxford Finance Corporation (Oxford). These proceeds were partially offset by repayments of the term loans of $9.6 million.

Net cash provided by financing activities during 2010 of $115.0 million consisted primarily of net proceeds from our IPO of common stock of $47.2 million, net proceeds from our issuance of convertible preferred stock of $39.4 million and net proceeds from our issuance of promissory notes and notes payable of $36.2 million, respectively, offset by repayment of notes payable of $8.6 million.

Net cash provided by financing activities during 2009 of $37.9 million consisted primarily of net proceeds from our issuance of convertible preferred stock and proceeds from our issuance of promissory notes of $27.2 million and $14.7 million, respectively, offset by repayment of notes payable of $4.0 million.

Operating and Capital Expenditure Requirements

To date, we have not achieved profitability on a quarterly or annual basis and we expect this trend to continue as our cash expenditures will remain significant in the short-term. We plan to fund our short-term liquidity requirements using cash and cash equivalents and short term investments, including interest income earned on those balances. At January 1, 2012, our principal short-term liquidity needs are:

- to fund our operating losses;
- to fund our working capital for commercial operations, including personnel costs and other operating expense;
- to expand the sample preparation, sequencing and computing capacity in our Mountain View and Santa Clara leased facilities;
- to finance the further research and development of our sequencing technology and services;
- to finance sales and marketing activities; and
- to service our debt obligations.

We have a capital intensive business model and we forecast investing approximately $16.0 million in additional capital during 2012. In addition, as a public company we also incur significant legal, accounting and other expenses that we did not incur as a private company. We anticipate that we will continue to incur net losses for the foreseeable future as we continue to expand our business and build our infrastructure.

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In addition to our continued expenditures for the expansion of our Mountain View sequencing facility, further development of our sequencing technology and services, and expansion of our sales and marketing activities, our principal long-term liquidity needs are:

- to fund our working capital for commercial operations, including any growth in working capital required by growth in our business;
- to finance the possible development of additional sequencing centers; and
- to service our debt obligations.

The timing and amount of our future capital requirements will depend on many factors, including, but not limited to, the following:

- the financial success of our genome sequencing business;
- our ability to increase the genome sequencing capacity in our Mountain View facility;
- whether we are successful in obtaining payments from customers;
- whether we can enter into collaborations and establish a recurring customer base;
- the progress and scope of our research and development projects;
- the filing, prosecution and enforcement of patent claims;
- the rate at which we establish possible additional genome sequencing centers, if any, and whether we can find suitable partners with which to establish those centers;
- the effect of any joint ventures or acquisitions of other businesses or technologies that we may enter into or make in the future; and
- lawsuits brought against us by third parties.

Our forecast of the period of time through which our financial resources will be adequate to support our operations and the costs to support our general and administrative, sales and marketing and research and development activities are forward-looking statements and involve risks and uncertainties. Actual results could vary materially and negatively as a result of a number of factors, including the factors discussed under the caption Risk Factors. We have based these estimates on assumptions that may prove to be wrong, and we could use our available capital resources sooner than we currently expect.

Term Loans

On December 17, 2010, we entered into a loan and security agreement with Atel Ventures, Inc. (Atel). On March 25, 2011, we entered into a new loan and security agreement with Oxford.

Atel Loan Agreement

The loan and security agreement with Atel (the Atel Loan Agreement) consists of a $6.0 million term loan for equipment purchases, which are collateralized to secure the term loan. Under the terms of the Atel Loan Agreement, the term loan balance is being repaid in 36 equal monthly payments of principal and interest. Interest accrues on the term loan at a rate of 11.26% per annum. The outstanding borrowings under the term loan are collateralized by a senior priority interest in certain of our current property and equipment, and all property and equipment that was purchased during the term of the Atel Loan Agreement. In connection with entering into the loan and security agreement with Oxford, we and Atel made certain administrative and technical amendments to the Atel Loan Agreement.

In connection with the Atel Loan Agreement, we issued to Atel a warrant to purchase 49,834 shares of our common stock at an exercise price of $7.224 per share. The warrant was exercised in full on June 17, 2011.

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The Atel Loan Agreement contains customary representations and warranties, covenants, including closing and advancing conditions, events of defaults and termination provisions. The affirmative covenants include, among other things, that we maintain certain cash account balances, and liability and other insurance, and that we pledge security interests in any ownership interest of a future subsidiary. The negative covenants preclude us from, among other things, disposing of certain assets, engaging in any merger or acquisition, incurring additional indebtedness, encumbering any collateral, paying dividends or making prohibited investments, in each case without the prior consent of Atel. As of December 31, 2011, we were in compliance with all the covenants in the Atel Loan Agreement. In February 2012, it became evident that we would breach a covenant in the Atel Loan Agreement as our 2011 consolidated financial statements would likely contain an explanatory paragraph regarding substantial doubt about our ability to continue as a going concern in the opinion on the financial statements from our independent registered public accounting firm. In February 2012, the Atel Loan Agreement was amended to include, among other things, a waiver for this expected covenant violation.

Oxford Loan Agreement

On March 25, 2011, we entered into a loan and security agreement (the Oxford Loan Agreement) with Oxford Finance Corporation (Oxford). The Oxford Loan Agreement provides for a term loan of $20.0 million. The outstanding balance of the term loan must be repaid in full by October 1, 2014 (the Maturity Date). Under the terms of the Oxford Loan Agreement, the outstanding balance accrues interest at a rate of 9.80% per annum. Until May 1, 2012 (the Amortization Date), we must make monthly payments equal to the accrued interest on the outstanding loan balance, and, following the Amortization Date through the Maturity Date the outstanding loan balance will be repaid in thirty (30) equal monthly payments of principal and interest.

As a condition to the Oxford Loan Agreement, a portion of the term loan was used to repay the remaining balance of $7.4 million on our existing term loan agreement with Comerica. Following repayment of the outstanding indebtedness, the Comerica Loan Agreement was terminated. We intend to use the remainder of the Oxford term loan to fund our working capital requirements.

The term loan is secured by a senior priority on all of our assets, excluding our intellectual property and those assets securing borrowings under the Atel loan agreement. In addition, we have agreed not to pledge our intellectual property to another entity without Oxford s approval or consent.

In connection with the entry into the Oxford Loan Agreement, we issued to Oxford warrants to purchase an aggregate of 160,128 shares of our common stock (the Warrant Shares) at an exercise price of $7.495 per share. The warrants expire on the seventh anniversary of the issuance date. We also agreed to use best efforts to provide Oxford certain registration rights covering the Warrant Shares.

The Oxford Loan Agreement contains customary representations and warranties, covenants, closing and advancing conditions, events of default and termination provisions. The affirmative covenants include, among other things, that we timely file taxes, maintain certain operating accounts subject to control agreements in favor of Oxford, maintain liability and other insurance, and pledge security interests in any ownership interest of a future subsidiary. The negative covenants preclude, among other things, disposing of certain assets, engaging in any merger or acquisition, incurring additional indebtedness, encumbering any collateral, paying dividends or making prohibited investments, in each case, without the prior consent of Oxford. The Oxford Loan Agreement provides that an event of default will occur if (1) there is a material adverse change in our business, operations or condition (financial or otherwise), (2) there is a material impairment in the prospects of us repaying any portion of our obligations under the term loan, (3) there is a material impairment in the value of the collateral pledged to secure our obligations under the agreement or in Oxford s perfection or priority over the collateral, (4) we default in the payment of any amount payable under the agreement when due, or (5) we breach any negative covenant or certain affirmative covenants in the agreement (subject to a grace period in some cases). The repayment of the term loan is accelerated following the occurrence of an event of default or otherwise, which would require us to immediately pay an amount equal to the sum of: (i) all outstanding principal plus accrued but unpaid interest, (ii) the prepayment fee, (iii) the final payment, plus (iv) all other sums, that shall have become due and payable

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but have not been paid, including interest at the default rate with respect to any past due amounts. As of December 31, 2011, we were in compliance with all the covenants in the Oxford Loan Agreement. In February 2012, it became evident that we would breach a covenant in the Oxford Loan Agreement as our 2011 consolidated financial statements would likely contain an explanatory paragraph regarding substantial doubt about our ability to continue as a going concern in the opinion on the financial statements from our independent registered public accounting firm. In February 2012, the Oxford Loan Agreement was amended to include, among other things, a waiver for this expected covenant violation.

Contractual Obligations and Commitments

The following summarizes the future commitments arising from our contractual obligations at December 31, 2011 (in thousands):

		Payment due by period			
Contractual obligations	**Total**	**Less than 1 year**	**1-3 years**	**3-5 years**	**More than 5 years**
Debt obligations[1]	$ 24,024	$ 6,857	$ 17,167	$	$
Interest[2]	4,343	2,177	2,166		
Operating lease obligations[3]	14,488	3,438	5,965	5,085	
Purchase obligations[4]	14,236	11,714	2,483	39	
Total	$ 57,091	$ 24,186	$ 27,781	$ 5,124	$

(1) Represents our outstanding debt under our term loans as of December 31, 2011.
(2) Represents interest payments on our outstanding debt under our term loans as of December 31, 2011.
(3) Consists of contractual obligations under non-cancellable office space operating leases.
(4) Consists of purchase obligations related to our data center and non-cancellable orders for sequencing components. The table above also includes agreements to purchase goods or services that have cancellation provisions requiring little or no payment. The amounts under such contracts are included in the table above because management believes that cancellation of these contracts is unlikely and the Company expects to make future cash payments according to the contract terms or in similar amounts for similar materials.

Off-Balance Sheet Arrangements

We do not currently have, nor have we ever had, any relationships with unconsolidated entities or financial partnerships, such as entities often referred to as structured finance or special purpose entities, established for the purpose of facilitating off-balance sheet arrangements or other contractually narrow or limited purposes. In addition, we do not engage in trading activities involving non-exchange traded contracts.

Indemnification

In the normal course of business, we enter into contracts and agreements that contain a variety of representations and warranties and provide for general indemnifications. Our exposure under these agreements is unknown because it involves claims that may be made against us in the future, but have not yet been made. To date, we have not paid any claims or been required to defend any action related to our indemnification obligations. However, we may record charges in the future as a result of these indemnification obligations.

In accordance with our certificate of incorporation and bylaws, we have indemnification obligations to our officers and directors for specified events or occurrences, subject to some limits, while they are serving at our request in such capacities. There have been no claims to date, and we have director and officer insurance that may enable us to recover a portion of any amounts paid for future potential claims.

Recent Accounting Pronouncements

See Note 2: Summary of Significant Accounting Policies of the Financial Statements in Part II, Item 8 of this report.

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ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

As of December 31, 2011, our investment portfolio consists of money market funds and fixed-income governmental securities. The primary objectives of our investment are to preserve capital and maintain liquidity. Our primary exposures to market risk are interest rate income sensitivity, which is affected by changes in the general level of U.S. interest rates, and conditions in the credit markets, including default risk. However, since all of our investments are in money market funds and highly liquid short-term governmental securities, we do not believe we are subject to any significant market interest rate risk exposure. We do not hold any foreign currency or other derivative financial instruments.

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ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

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Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of

Complete Genomics, Inc.

In our opinion, the consolidated financial statements listed in the accompanying index present fairly, in all material respects, the financial position of Complete Genomics, Inc. and its subsidiaries at December 31, 2011 and 2010, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2011 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2011, based on criteria established in *Internal Control - Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Company s management is responsible for these financial statements, for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in Management s Annual Report on Internal Control over Financial Reporting appearing under Item 9A. Our responsibility is to express opinions on these financial statements and on the Company s internal control over financial reporting based on our audits (which was an integrated audit in 2011). 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 audits to obtain reasonable assurance about whether the financial statements are free of material misstatement and whether effective internal control over financial reporting was maintained in all material respects. Our audits of the financial statements included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

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

A company s internal control over financial reporting is a process designed 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. A company s internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company s assets that could have a material effect on the financial statements.

Because of its 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.

/s/ PricewaterhouseCoopers LLP

San Jose, California

March 8, 2012

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COMPLETE GENOMICS, INC.

CONSOLIDATED BALANCE SHEETS

	December 31, 2011	2010
	(in thousands, except share and per share amounts)	
Assets		
Current assets		
Cash and cash equivalents	$ 77,074	$ 68,918
Short-term investments	6,000	
Accounts receivable (net of allowance for doubtful accounts of $44 and $0 at December 31, 2011 and 2010, respectively)	6,488	4,943
Inventory	4,121	3,980
Prepaid expenses	1,141	1,101
Other current assets	341	78
Total current assets	95,165	79,020
Property and equipment, net	33,592	23,843
Other assets	1,446	297
Total assets	$ 130,203	$ 103,160
Liabilities and Stockholders Equity		
Current liabilities		
Accounts payable	$ 5,363	$ 3,066
Accrued liabilities	5,400	3,102
Notes payable, current	7,099	5,780
Deferred revenue	10,026	5,739
Total current liabilities	27,888	17,687
Notes payable, net of current	16,162	7,521
Deferred rent, net of current	3,539	4,316
Total liabilities	47,589	29,524
Commitments and contingencies (Note 7)		
Stockholders equity		
Preferred stock, par value $0.001 5,000,000 shares authorized and no shares outstanding at December 31, 2011 and 2010		
Common stock, $0.001 par value 300,000,000 shares authorized and 33,409,638 shares issued and outstanding at December 31, 2011; 300,000,000 shares authorized and 25,922,627 shares issued and outstanding at December 31, 2010	33	26
Additional paid-in capital	293,777	212,458
Accumulated deficit	(211,196)	(138,848)
Total stockholders equity	82,614	73,636
Total liabilities and stockholders equity	$ 130,203	$ 103,160

The accompanying notes are an integral part of these consolidated financial statements.

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COMPLETE GENOMICS, INC.

CONSOLIDATED STATEMENTS OF OPERATIONS

	Years Ended December 31,		
	2011	2010	2009
Revenue	$ 19,344	$ 9,389	$ 623
Costs and expenses:			
Costs of revenue	28,309		
Start-up production costs		19,895	5,033
Research and development	32,691	21,691	22,424
General and administrative	14,039	9,345	4,953
Sales and marketing	13,600	6,111	1,798
Total costs and expenses	88,639	57,042	34,208
Loss from operations	(69,295)	(47,653)	(33,585)
Interest expense	(2,732)	(2,827)	(3,465)
Interest and other income (expense), net	(321)	(7,207)	1,101
Net loss	(72,348)	(57,687)	(35,949)
Deemed dividend related to beneficial conversion feature of Series E convertible preferred stock		(405)	
Net loss attributed to common stockholders	$ (72,348)	$ (58,092)	$ (35,949)
Net loss per share attributed to common stockholders basic and diluted	$ (2.40)	$ (13.60)	$ (386.56)
Weighted-average shares of common stock outstanding used in computing net loss per share attributed to common stockholders basic and diluted	30,179,126	4,271,176	92,998

The accompanying notes are an integral part of these consolidated financial statements.

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COMPLETE GENOMICS, INC.

CONSOLIDATED STATEMENT OF CONVERTIBLE PREFERRED STOCK

AND STOCKHOLDERS EQUITY (DEFICIT)

	Convertible preferred stock		Common stock		Additional paid-in capital	Retained deficit	Total stockholders equity (deficit)
	Shares	Amount	Shares	Amount	(in thousands, except share and per share amounts)		
	(in thousands, except share and per share amounts)						
Balances at December 31, 2008	508,942	$ 45,622	93,825		$ 58	$ (45,212)	$ (45,154)
Issuance of Series D convertible preferred stock for cash at $7.56 per share, net of issuance costs of $2,879	3,972,729	27,156					
Issuance of Series D convertible preferred stock upon conversion of promissory notes and accrued interest at $7.56 per share	1,991,325	15,054					
Issuance of common stock warrants in connection with Series D convertible preferred stock		(1,999)			1,999		1,999
Employee stock based compensation					1,142		1,142
Nonemployee stock based compensation					268		268
Issuance of common stock under equity incentive plan			456		4		4
Net loss						(35,949)	(35,949)
Balances at December 31, 2009	6,472,996	85,833	94,281		3,471	(81,161)	(77,690)
Issuance of Series D convertible preferred stock for cash at $7.56 per share, net of issuance costs of $233	1,346,762	9,949					
Issuance of common stock to founders at $2.34 per share for services rendered			786,533	1	1,839		1,840
Issuance of common stock warrants in connection with promissory notes					5,389		5,389
Issuance of Series E convertible preferred stock upon conversion of promissory notes and accrued interest at $7.56 per share	2,990,355	15,403					
Issuance of Series E convertible preferred stock for cash in at $7.56 per share, net of issuance costs of $187	2,284,516	17,084					
Issuance of common stock warrants in connection with sale of Series E convertible preferred stock		(882)			2,020		2,020
Issuance of purchase rights for Series E convertible preferred stock		(1,144)					
Beneficial conversion feature embedded in Series E convertible preferred stock issued for cash		(405)			405		405
Recognition of conversion feature embedded in Series E convertible preferred stock issued for cash		405			(405)		(405)

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COMPLETE GENOMICS, INC.

STATEMENT OF CONVERTIBLE PREFERRED STOCK

AND STOCKHOLDERS EQUITY (DEFICIT)

	Convertible preferred stock		Common stock		Additional paid-in capital	Retained deficit	Total stockholders equity (deficit)
	Shares	Amount	Shares	Amount			
	(in thousands, except share and per share amounts)				(in thousands, except share and per share amounts)		
Reclassification of preferred stock purchase right liability to preferred stock upon exercise of those rights		9,153					
Issuance of Series E convertible preferred stock for cash at $7.56 per share, net of issuance cost of $9	1,637,310	12,369					
Exercise of common stock warrants for cash			413,398	1	619		620
Conversion of preferred stock into common stock immediately prior to initial public offering	(14,731,939)	(147,765)	17,445,662	17	147,748		147,765
Net exercise of preferred and common stock warrants immediately prior to initial public offering			1,065,394	1	(1)		
Reclassification of preferred stock warrant liability into additional paid-in capital upon initial public offering					2,277		2,277
Issuance of common stock in initial public offering at $9.00 per share, net of issuance costs of $6,823			6,000,000	6	47,169		47,175
Employee stock-based compensation					1,630		1,630
Nonemployee stock-based compensation					121		121
Issuance of common stock under equity incentive plans			117,359		176		176
Net loss						(57,687)	(57,687)
Balances at December 31, 2010			25,922,627	26	212,458	(138,848)	73,636
Issuance of common stock warrants in connection with the Oxford Loan Agreement					987		987
Issuance of common stock in secondary public offering at $12.5 per share, net of issuance costs of $5,128			6,325,000	6	73,926		73,932
Warrants exercised on a net basis			526,805				
Reclassification of warrant liability into additional paid-in capital upon exercise of those warrants					643		643
Employee stock based compensation					4,259		4,259
Nonemployee stock based compensation					65		65
Issuance of common stock under equity incentive and stock purchase plans			635,206	1	1,439		1,440
Net loss						(72,348)	(72,348)

Balances at December 31, 2011	$ 33,409,638	$ 33	$ 293,777	$ (211,196)	$ 82,614

The accompanying notes are an integral part of these consolidated financial statements.

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COMPLETE GENOMICS, INC.

CONSOLIDATED STATEMENTS OF CASH FLOWS

	Years ended December 31,		
	2011	2010	2009
		(In thousands)	
Cash flows from operating activities			
Net loss	$ (72,348)	$ (57,687)	$ (35,949)
Adjustments to reconcile net loss to net cash used in operating activities			
Depreciation and amortization	11,715	8,018	5,240
Amortization of debt issuance costs		410	259
Write-down of inventory	933	148	
Issuance of common stock to founders		1,840	
Change in fair value of warrant liability and stock purchase right	361	7,211	(1,088)
Stock-based compensation	4,324	1,751	1,410
Noncash interest expense related to the promissory notes and notes payable	670	1,485	2,113
Other	84	109	31
Changes in assets and liabilities			
Accounts receivable	(1,589)	(3,655)	(1,288)
Inventory	(1,074)	(3,774)	(354)
Prepaid expenses	(40)	4,055	(4,688)
Other current assets	(263)	119	110
Other assets	(437)	(53)	(143)
Accounts payable	1,226	481	1,078
Accrued liabilities	2,417	788	288
Deferred revenue	4,287	4,437	1,302
Deferred rent, net of current	(777)	(701)	5,017
Net cash used in operating activities	(50,511)	(35,018)	(26,662)
Cash flows from investing activities			
Purchases of available-for-sale securities	(52,653)		
Proceeds from maturities of available-for-sale securities	46,653		
Purchases of property and equipment	(20,395)	(18,802)	(9,654)
Increase in restricted cash	(500)		
Purchase of patent	(250)		
Net cash used in investing activities	(27,145)	(18,802)	(9,654)
Cash flows from financing activities			
Proceeds from promissory notes		22,243	14,725
Proceeds from notes payable	20,000	14,000	
Repayment of notes payable	(9,560)	(8,643)	(3,990)
Proceeds from issuance of convertible preferred stock, net of issuance costs		39,402	27,156
Proceeds from issuance of common stock, net of issuance costs	73,932	47,175	
Proceeds from issuance of common stock under equity incentive and stock purchase plans	1,440	796	4
Net cash provided by financing activities	85,812	114,973	37,895
Net increase in cash and cash equivalents	8,156	61,153	1,579
Cash and cash equivalents at beginning of year	68,918	7,765	6,186
Cash and cash equivalents at end of year	$ 77,074	$ 68,918	$ 7,765

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COMPLETE GENOMICS, INC.

CONSOLIDATED STATEMENTS OF CASH FLOWS

	Years ended December 31,		
	2011	2010	2009
		(In thousands)	
Supplemental disclosure of cash flow information			
Cash paid for interest	$ 2,191	$ 1,198	$ 1,068
Supplemental disclosure of noncash investing and financing activities			
Issuance of warrants for convertible preferred stock in connection with promissory notes	$	$	$ 1,541
Issuance of warrants for common stock in connection with convertible preferred stock financings		2,020	1,999
Conversion of promissory notes and interest into convertible preferred stock		15,403	15,054
Acquisition of property and equipment within accounts payable	1,071	1,696	2,458
Issuance of warrants for common stock in connection with notes payable	987	5,671	
Issuance of purchase rights for Series E convertible preferred stock		2,666	
Reclassification of purchase right liability to preferred stock upon exercise		9,153	
Reclassification of warrant liability to additional paid-in capital upon initial public offering		2,277	
Reclassification of warrant liability to additional paid-in capital upon exercise of warrant	643		
Conversion of preferred stock into common stock upon initial public offering		147,765	
Deemed dividend related to the beneficial conversion feature of Series E convertible preferred stock		405	

The accompanying notes are an integral part of these consolidated financial statements.

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Complete Genomics, Inc.

Notes to Consolidated Financial Statements

1. ORGANIZATION AND DESCRIPTION OF BUSINESS

Complete Genomics, Inc., (the Company) is a life sciences company that has developed and commercialized a DNA sequencing platform for whole human genome sequencing and analysis. The Company s Complete Genomics Analysis Platform (CGA Platform) combines its proprietary human sequencing technology with its advanced informatics and data management software and its end-to-end outsourced service model to provide customers with data that is immediately ready to be used for genome-based research. The Company s solution provides academic, biopharmaceutical and translational medicine researchers with whole human genome data and analysis without requiring them to invest in in-house sequencing instruments, high-performance computing resources and specialized personnel. In the DNA sequencing industry, complete human genome sequencing is generally deemed to be coverage of at least 90% of the nucleotides in the genome. The Company was incorporated in Delaware on June 14, 2005 and began operations in March 2006. The Company was in a development stage at the beginning of 2010 but made the determination that it is no longer a development stage company as of December 31, 2010. Since inception, the Company has been engaged in developing its complete human genome sequencing technology, raising capital and recruiting personnel.

In November 2010, the Company closed the initial public offering of its common stock (the IPO) and sold 6,000,000 shares of its common stock at a public offering price of $9.00 per share. The Company received gross proceeds of approximately $54.0 million from this transaction, before underwriting discounts and commissions and offering expenses. On June 1, 2011, the Company completed an underwritten public offering of 6,325,000 shares of its common stock at $12.50 per share. The Company received gross proceeds of approximately $79.1 million from this transaction, before underwriting discounts and commissions and offering expenses.

The Company has incurred net operating losses and significant negative cash flow from operations during every year since inception. At December 31, 2011, the Company had a retained deficit of $211.2 million. Management believes that the current cash, cash equivalents and short- term investments, totaling $83.1 million will not be sufficient to support the Company s currently planned operations for the twelve months beyond the December 31, 2011 balance sheet. The above factors give rise to substantial doubt as to the Company s ability to continue as a going concern. These financial statements do not include any adjustments that might result from the outcome of this uncertainty.

The Company is actively pursuing additional funding options, including equity offerings, strategic corporate alliances, and the establishment of product related research and development limited partnerships, to obtain additional financing to continue the development of its service offerings and the expansion of its market. There can be no assurance that the Company will be successful in its efforts to raise additional capital. Should the Company be unable to raise adequate financing or generate revenue in the future, long-term operations will need to be scaled back or discontinued.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Presentation and Use of Estimates

The accompanying financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America (GAAP) and include all adjustments necessary for the fair presentation of the Company s financial position, results of operations and cash flows for the periods presented. In preparing the financial statements, management must make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities as of the date of the financial statements and the reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates.

The consolidated financial statements include the accounts of Complete Genomics and those of its wholly-owned subsidiaries. All inter-company accounts and transactions have been eliminated.

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Stock Split

The Company initiated a 30-for-1 reverse stock split effective November 2009. All share and per share amounts in these financial statements have been retroactively adjusted to give effect to the reverse stock split.

Segment Information

The Company operates as one segment. Management uses one measure of profitability and does not segment its business for internal reporting. All of the Company s assets are located in the United States.

Revenue Recognition

The Company generates revenue from selling our human genome sequencing services. Revenue is recognized when all of the following criteria are met: persuasive evidence of an arrangement exists, title has transferred, the price is fixed or determinable and collectability is reasonably assured. Upon completion of the sequencing process, we ship or make available the research-ready genomic data to the customer. The Company uses shipping documents and third-party evidence to verify shipment of the data. In order to determine whether collectability is reasonably assured, the Company assesses a number of factors, including past transaction history with the customer and the creditworthiness of the customer. If the Company determines that collectability is not reasonably assured, the Company defers the recognition of revenue until collectability becomes reasonably assured.

Through a signed contract, which may be in the form of a signed agreement or purchase order, the Company establishes persuasive evidence of an arrangement with its customers and whether there is a fixed and determinable price. The contract outlines terms and conditions to determine the Company s obligations associated with the contract. Revenue is recognized, net of discounts and incentives, when the individual genomic data is shipped or made available to customers and upon satisfaction of its obligations. If the Company has not satisfied its obligations as outlined in the terms and conditions of the contract, revenue is deferred until these obligations are satisfied.

In certain circumstances, the Company may agree to contract modifications prior to its fulfillment of an arrangement and recognition of related revenue. In these circumstances, the modifications are accounted for as additional contract obligations or deliverables. Revenue is then allocated to the modified deliverables and recognized when the four general revenue recognition criteria have been met.

The Company also receives down payments from customers prior to the commencement of the genome sequencing process. Any down payments received are recorded as deferred revenue until the Company meets all revenue recognition criteria.

In the first quarter of 2011, the Company adopted the provisions of Accounting Standards Update (ASU) 2009-13, *Revenue Recognition (Topic 605) Multiple-Deliverable Revenue Arrangements* (which amended existing accounting guidance for revenue recognition for multiple-element arrangements). Simultaneously, the Company created a dedicated customer support team. The Company applied the provisions ASU 2009-13 on a prospective basis to all revenue arrangements entered into or materially modified since the beginning of 2011.

In general, the Company s multiple element arrangements provide for delivery of research-ready genomic data and technical customer support. The Company has evaluated the allocation of the arrangement consideration to its deliverables using the relative-selling-price hierarchy required in ASU 2009-13 of vendor specific objective evidence (VSOE), third party evidence (TPE) or its best estimate of selling price (ESP). VSOE is based on the price charged when the element is sold separately and is the price actually charged for that deliverable. The Company typically is not able to determine VSOE for an element because a substantial majority of the selling prices for the Company s services do not fall within a reasonably narrow range. TPE is determined based on a competitor s price for similar deliverables when sold separately. The Company typically is not able to determine TPE as the Company is unable to reliably determine competitor prices for similar deliverables when sold separately. Therefore, the Company uses ESP in its allocation of arrangement consideration to its genome sequencing data and its technical support services.

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The objective of ESP is to determine the price at which the Company would enter into a transaction with the customer if the service were to be sold by the Company on a standalone basis. Specifically, for such price determination, the Company considers the cost to provide the service, the targeted margin on that service, the economic conditions and trends, and its ongoing pricing strategy and policies.

The revenue related to the technical customer support service is recognized on a straight-line basis, beginning from the date the revenue related to the delivery of the genome sequencing data is recognized, over the time period during which the technical support services are provided.

Concentration of Credit Risk and Other Risks and Uncertainties

The Company is subject to all of the risks inherent in an early-stage company developing a new approach to DNA sequencing. These risks include, but are not limited to, limited management resources, the need to rapidly develop and implement new methods and equipment, high costs to develop technology and the market for its services, intense competition, dependence upon customer acceptance of the products in development and the changing nature of the DNA sequencing industry. The Company s operating results may be materially affected by the foregoing factors.

The Company depends on a limited number of suppliers, including single-source suppliers, of various critical components in the sequencing process. The loss of these suppliers, or their failure to supply the Company with the necessary components on a timely basis, could cause delays in the sequencing process and adversely affect the Company.

The Company s allocates its revenues to individual countries based on the primary locations of its customers.

As of December 31, 2011 and 2010, customers representing greater than 10% of accounts receivable were as follows:

Customer	December 31, 2011	December 31, 2010
Customer F	*	16%
Customer G	16%	*
Customer H	13%	27%

* *Less than 10%*

For 2011, 2010 and 2009, customers representing greater than 10% of revenue were as follows:

Customer	2011	2010	2009
Customer A	12%	*	16%
Customer B	15	*	16%
Customer C	*	11%	16%
Customer D	*	*	17%
Customer E	*	*	16%
Customer F	*	*	13%

* *Less than 10%*

For 2011, 2010 and 2009, countries representing greater than 10% of revenue were as follows:

Country	2011	2010	2009
Belgium	*	11%	16%
The Netherlands	12%	*	*

United States	72%	71%	84%

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Fair Value of Financial Instruments

Carrying amounts of certain of the Company s financial instruments, including cash and cash equivalents, prepaid expenses and other current assets, accounts payable and accrued liabilities, approximate fair value due to short maturities. Based on borrowing rates currently available to the Company for promissory notes, notes payable and term loans with similar terms, the carrying value of promissory notes, notes payable and term loans approximate their fair value.

Cash and Cash Equivalents

The Company considers all highly liquid investments purchased with original maturities of three months or less to be cash equivalents. Cash and cash equivalents are deposited in a demand account and money market funds at two financial institutions. At times, such deposits may be in excess of federally insured limits. As of December 31, 2011, the Company has $0.5 million in restricted cash which collateralizes its company credit cards. This restricted cash is included in Other Assets on the balance sheet and is classified as long-term.

Available-for-Sale Securities

The Company classifies its investments in fixed income securities as available-for-sale securities. Fixed income securities consist of U.S. treasury notes and treasury bills. These available-for-sale securities are held in the custody of one major financial institution. The specific identification method is used to determine the cost basis of fixed income securities sold. These securities are recorded on the balance sheets at fair value. Unrealized gains and losses on these securities are included as a separate component of accumulated other comprehensive income (loss), net of tax. The Company classifies its available-for-sale securities as current based on the nature of the securities and their availability for use in current operations.

Accounts Receivable

Accounts receivable are recorded at the invoiced amount and are non-interest bearing. The Company maintains an allowance for doubtful accounts to reserve for potentially uncollectible receivables. Management reviews the accounts receivable to identify specific subscribers where collectability may not be probable. The amount of the allowance is determined by management estimates based on historic write-off trends and specific account analysis. In 2011, the Company recorded an allowance of $44,250. There were no write-offs in 2011 or any other activity in any prior year.

Property and Equipment, Net

Property and equipment are stated at cost less accumulated depreciation and amortization. Depreciation of property and equipment is computed using the straight-line method over their estimated useful lives as follows:

Computer equipment	3 years
Computer software	3 years
Furniture and fixtures	5 years
Machinery and equipment	3 years

Leasehold improvements are amortized over the shorter of the useful life or the remaining term of the lease. Upon retirement or sale, the cost and related accumulated depreciation are removed from the balance sheet and the resulting gain or loss is reflected in the statement of operations. Maintenance and repairs are charged to costs and expenses as incurred.

Impairment of Long-Lived Assets

The Company reviews its long-lived assets for impairment at least annually or whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability is measured by comparison of the carrying amount to the future net cash flows which the assets are expected to generate. If

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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 projected discounted future net cash flows arising from the asset. There have been no such impairments of long-lived assets to date.

Capitalized Software Internal-use software

The Company capitalizes certain costs incurred for the development of internal-use software. These costs, which include the costs associated with coding, software configuration, upgrades and enhancements, are included in property and equipment, net in the balance sheet.

Inventories

Inventories are stated at the lower of cost or market value. Cost is determined using standard costs, which approximate actual costs on a first-in, first-out basis. Market value is determined as the lower of replacement cost or net realizable value.

Start-up Production Costs

Start-up production costs are incurred during the period of development and validation of the production process and include the costs associated with commercialization of the sequencing process. The Company s start-up production costs primarily consist of costs related to the acceptance testing of customer genomic samples, sample sequencing preparation, sample sequencing, the processing of data generated by the prototype sequencing instruments, continued validation of the production process and optimization of instrument performance. These costs primarily include salaries and benefits and stock-based compensation expenses, chemical reagents and engineering materials and supplies, consultant fees, depreciation of equipment and facilities-related costs.

Research and Development

Research and development costs are charged to operations as incurred. Research and development costs include, but are not limited to, salaries and benefits and stock-based compensation expenses, laboratory supplies, consulting costs and other overhead expenses.

Government Grant

The Company accounts for its government grant as a reduction of expense related to either research and development or general and administrative expense. The allocation is based on the grant agreement and the related expense reimbursed. Total reimbursement of expenses by the government grant is as follows:

	Years ended December 31,		
	2011	2010	2009
		(in thousands)	
Research and development expense	$ 906	$ 687	$ 800
General and administrative expense	228	172	213
	$ 1,134	$ 859	$ 1,013

Stock-Based Compensation

Stock-based compensation related to awards granted to the Company s employees, including stock options, stock purchase rights and restricted stock units (collectively the awards), is measured at the grant date based on the fair value of the award. The fair value is recognized as expense over the requisite service period, which is generally the vesting period of the respective awards. No compensation cost is ultimately recognized for awards

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for which employees do not render the requisite service and are forfeited. The Company uses the Black-Scholes pricing model to estimate the fair value of its stock options and stock purchase rights. The fair value of restricted stock units is equal to the market value of the Company s common stock on the date grant.

The Company accounts for stock options issued to nonemployees based on the estimated fair value of the awards using the Black-Scholes option pricing model. The measurement of stock-based compensation is subject to periodic adjustments as the underlying equity instruments vest, and the resulting change in value, if any, is recognized in the Company s statements of operations during the period the related services are rendered.

Income Taxes

The Company accounts for income taxes under the asset and liability method, which requires, among other things, that deferred income taxes be provided for temporary differences between the tax basis of the Company s assets and liabilities and their financial statement reported amounts. In addition, deferred tax assets are recorded for the future benefit of utilizing net operating losses and research and development credit carryforwards. A valuation allowance is provided against deferred tax assets unless it is more likely than not that they will be realized.

The Company adopted the accounting guidance for uncertainties in income taxes, which prescribes a recognition threshold and measurement process for recording uncertain tax positions taken, or expected to be taken, in a tax return in the financial statements. The guidance also prescribes new treatment for the derecognition, classification, accounting in interim periods and disclosure requirements for uncertain tax positions. The Company accrues for the estimated amount of taxes for uncertain tax positions if it is more likely than not that the Company would be required to pay such additional taxes. An uncertain tax position will not be recognized if it has a less than 50% likelihood of being sustained.

Comprehensive Loss

Comprehensive loss is comprised of net loss and other comprehensive income (loss). Other comprehensive income (loss) is comprised of the unrealized gains and losses on the Company s available-for-sale securities. Other comprehensive income (loss) has not been material to date.

Accounting Pronouncements

In June 2011, the FASB issued an amendment to the accounting guidance for presentation of comprehensive income. Under the amended guidance, a company may present the total of comprehensive income, the components of net income and the components of other comprehensive income either in a single continuous statement of comprehensive income or in two separate but consecutive statements. In either case, a company is required to present each component of net income along with total net income, each component of other comprehensive income along with a total for other comprehensive income and a total amount for comprehensive income. For public companies, the amendment is effective for fiscal years, and interim periods within those years, beginning after December 15, 2011, and shall be applied retrospectively. The Company adopted this amendment on January 1, 2012; however, other comprehensive income is not currently material so presentation is omitted. Additionally, the effective date of certain paragraphs regarding disclosure of the reclassifications of items out of accumulated other comprehensive income has been deferred. Other than a change in presentation, the adoption of this guidance is not expected to have a material impact on the Company s consolidated financial statements.

3. NET LOSS PER SHARE

Basic net loss per share is computed by dividing net loss attributed to common stockholders by the weighted-average number of common shares outstanding during the period, excluding shares subject to repurchase. The Company s potential dilutive shares, which include outstanding common stock options and restricted stock units,

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unvested common shares subject to repurchase, convertible preferred stock, shares issuable under our employee stock purchase plan and warrants, have not been included in the computation of diluted net loss per share for all the periods as the result would be anti-dilutive. Such potentially dilutive shares are excluded when the effect would be to reduce the net loss per share.

A reconciliation of the numerator and denominator used in the calculation of basic and diluted net loss per share follows:

	Years ended December 31,		
	2011	2010	2009
	(in thousands except share and per share amounts)		
Historical net loss per share:			
Numerator			
Net loss	$ (72,348)	$ (57,687)	$ (35,949)
Deemed dividend related to beneficial conversion feature of Series E convertible preferred stock		(405)	
Net loss attributed to common stockholders	$ (72,348)	$ (58,092)	$ (35,949)
Denominator			
Weighted-average common shares outstanding	30,179,126	4,271,176	94,242
Less: Weighted-average shares subject to repurchase			(1,244)
Denominator for basic and diluted net loss per share	30,179,126	4,271,176	92,998
Basic and diluted net loss per share attributed to common stockholders	$ (2.40)	$ (13.60)	$ (386.56)

The following outstanding shares of potentially dilutive securities were excluded from the computation of diluted net loss per share for the periods presented because including them would have had an anti-dilutive effect:

	December 31,		
	2011	2010	2009
Options to purchase common stock	4,101,953	2,869,747	1,535,469
Employee stock purchase plan shares	286,405		
Restricted stock units for common stock	15,003	27,500	
Warrants to purchase convertible preferred stock			384,153
Warrants to purchase common stock	1,533,823	2,007,455	1,630,629
Convertible preferred stock (on an as-if converted basis)			9,186,728
Total	5,937,184	4,904,702	12,736,979

4. SHORT-TERM INVESTMENTS

Summary of Available-for-Sale Securities

The following table summarizes the Company s available-for-sale securities at December 31, 2011 (in thousands):

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value

Fixed income securities:				
U.S. government securities[1]	$ 6,000	$	$	$ 6,000
Total fixed income securities	$ 6,000	$	$	$ 6,000

(1) The weighted average contractual maturity of these securities is 15 days as of December 31, 2011.

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There were no available-for-sale investments prior to March 31, 2011. There were no realized gains or losses or impairment charges on available-for-sale securities for the year ended December 31, 2011.

For fixed income securities that have unrealized losses as of December 31, 2011, the Company has determined that it does not have the intent to sell any of these securities.

5. FAIR VALUE MEASUREMENT

Assets and liabilities recorded at fair value in the financial statements are categorized based upon the level of judgment associated with the inputs used to measure their fair value. Hierarchical levels which are directly related to the amount of subjectivity associated with the inputs to the valuation of these assets or liabilities are as follows:

Level 1: Observable inputs, such as quoted prices in active markets for identical assets or liabilities.

Level 2: Observable inputs, other than Level 1 prices, such as quoted prices for similar assets or liabilities, quoted prices in markets that are not active or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.

Level 3: Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

The following table sets forth the Company s financial instruments that are measured at fair value on a recurring basis as of December 31, 2011 and 2010 and by level within the fair value hierarchy. Assets and liabilities measured at fair value are classified in their entirety based on the lowest level of input that is significant to the fair value measurement. The Company s assessment of the significance of a particular input to the fair value measurement in its entirety requires management to make judgments and consider factors specific to the asset or liability.

As of December 31, 2011, the Company s fair value hierarchy for its financial assets and financial liabilities that are carried at fair value was as follows:

	Level 1	Level 2	Level 3	Total
		(in thousands)		
Assets				
Money market funds (included in cash and cash equivalents)	$ 74,376	$	$	$ 74,376
U.S. government securities (included in short-term investments)	$	$ 6,000	$	$ 6,000

As of December 31, 2010, the Company s fair value hierarchy for its financial assets and financial liabilities that are carried at fair value was as follows:

	Level 1	Level 2	Level 3	Total
		(in thousands)		
Assets				
Money market fund (included in Cash and cash equivalents)	$ 50,623	$	$	$ 50,623
Liabilities				
Warrants to purchase common stock	$	$	$ 282	$ 282

Level 2 U.S. government securities are priced using non-binding market consensus prices that are corroborated by observable market data, quoted market prices for similar instruments, or pricing models, such as discounted cash flow techniques. The Company did not have any transfers between Level 1 and Level 2 fair value measurements during 2011.

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Level 3 warrant liabilities were valued using the Black-Scholes option pricing model. The expected term for these warrants is based on the remaining contractual life of these warrants. The expected volatility assumption was determined by examining the historical volatility for industry peers, as the Company did not have a sufficient trading history for its common stock. The risk-free interest rate assumption is based on U.S. Treasury investments whose term is consistent with the expected term of the warrants. The expected dividend assumption is based on the Company s history and expectation of dividend payouts.

The change in the fair value of the common stock warrant liability is summarized below:

	(in thousands)
Fair value at December 31, 2010	$ 282
Increase in the fair value recorded in interest and other income (expense), net	361
Reclassification to additional paid-in capital upon exercise of warrants in June 2011	(643)
Fair value at December 31, 2011	$

6. BALANCE SHEET COMPONENTS

Inventory, net

Inventory, net consists of the following:

	December 31,	
	2011	2010
	(in thousands)	
Raw materials	$ 1,617	$ 1,426
Work-in-progress	1,923	1,917
Finished goods	581	637
Total	$ 4,121	$ 3,980

Inventory includes items that may be used in the research and development process and such items are expensed as consumed or expired. Provisions for slow moving, excess, and obsolete inventories are estimated based on quality issues, usage forecasts or other causes. In 2011 and 2010, the Company recorded inventory write downs of $0.9 million and $0.1 million, respectively. When inventory is written down, a new cost basis is established.

Property and Equipment, Net

Property and equipment, net, consist of the following:

	December 31,	
	2011	2010
	(in thousands)	
Computer equipment	$ 10,442	$ 7,519
Computer software	2,398	1,857
Furniture and fixtures	586	354
Machinery and equipment	30,017	19,362
Leasehold improvements	10,800	7,024
Equipment under construction	3,301	37

	57,544	36,153
Less: Accumulated depreciation and amortization	(23,952)	(12,310)
	$ 33,592	$ 23,843

Depreciation and amortization expense for the years ended December 31, 2011, 2010 and 2009 was $11.7 million, $8.0 million and $5.2 million, respectively.

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Accrued Liabilities

Accrued liabilities consist of the following:

	December 31,	
	2011	2010
	(in thousands)	
Accrued paid time off	$ 1,840	$ 1,326
Accrued compensation and benefits - other	1,909	608
Deferred rent, current	793	702
Warrants to purchase common stock		282
Other	858	184
	$ 5,400	$ 3,102

7. COMMITMENTS AND CONTINGENCIES

Operating Lease Obligations

In October 2007, the Company entered into an agreement for office facilities consisting of approximately 10,560 square feet under an operating lease, which began on January 1, 2008. This agreement as amended now expires in August 2016.

In October 2008, the Company entered into an agreement for office facilities consisting of approximately 66,096 square feet under an operating lease, which began on March 1, 2009 and expires in August 2016.

In April 2011, the Company entered into an agreement for office facilities consisting of approximately 19,334 square feet under an operating lease, which began on July 15, 2011 and expires in March 2013.

The Company recognizes rent expense on a straight-line basis over the non-cancellable lease term and records the difference between cash rent payments and the recognition of rent expense as a deferred rent liability. Where leases contain escalation clauses, rent abatements and/or concessions, such as rent holidays and landlord or tenant incentives or allowances, the Company applies them in the determination of straight-line rent expense over the lease term. Rent expense for the years ended December 31, 2011, 2010 and 2009 was $2.3 million, $2.0 million and $1.9 million, respectively.

Future minimum lease payments under these non-cancellable operating leases as of December 31, 2011 are as follows:

	(in thousands)
Years Ending December 31,	
2012	$ 3,438
2013	3,025
2014	2,940
2015	3,020
2016	2,065
Total future minimum lease payments	$ 14,488

Term Loans

On December 17, 2010, the Company entered into a loan and security agreement with Atel Ventures, Inc. (Atel). On March 25, 2011, the Company entered into a new loan and security agreement with Oxford Finance Corporation (Oxford).

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Atel Loan Agreement

The loan and security agreement with Atel (the Atel Loan Agreement) consists of a $6.0 million term loan for equipment purchases, which is collateralized to secure the term loan. Under the terms of the Atel Loan Agreement, the term loan balance is being repaid in 36 equal monthly payments of principal and interest. Interest accrues on the term loan at a rate of 11.26% per annum. The outstanding borrowings under the term loan are collateralized by a senior priority interest in certain of our current property and equipment, and all property and equipment that was purchased during the term of the Atel Loan Agreement. In connection with entering into the loan and security agreement with Oxford, the Company and Atel made certain administrative and technical amendments to the Atel Loan Agreement.

In connection with the Atel Loan Agreement, the Company issued to Atel a warrant to purchase 49,834 shares of our common stock at an exercise price of $7.224 per share. The warrant was exercised in full on June 17, 2011.

The Atel Loan Agreement contains customary representations and warranties, covenants, including closing and advancing conditions, events of defaults and termination provisions. The affirmative covenants include, among other things, that the Company maintains certain cash account balances, and liability and other insurance, and that the Company pledges security interests in any ownership interest of a future subsidiary. The negative covenants preclude the Company from, among other things, disposing of certain assets, engaging in any merger or acquisition, incurring additional indebtedness, encumbering any collateral, paying dividends or making prohibited investments, in each case without the prior consent of Atel. As of December 31, 2011, the Company was in compliance with all the covenants in the Atel Loan Agreement. In February 2012, it became evident that the Company would breach a covenant in the Atel Loan Agreement as its 2011 consolidated financial statements would likely contain an explanatory paragraph regarding substantial doubt about the Company s ability to continue as a going concern in the opinion on the financial statements from the Company s independent registered public accounting firm. In February 2012, the Oxford Loan Agreement was amended to include, among other things, a waiver for this expected covenant violation.

Oxford Loan Agreement

On March 25, 2011, the Company entered into a loan and security agreement (the Oxford Loan Agreement) with Oxford. The Oxford Loan Agreement provides for a term loan of $20.0 million. The outstanding balance of the term loan must be repaid in full by October 1, 2014 (the Maturity Date). Under the terms of the Oxford Loan Agreement, the outstanding balance accrues interest at a rate of 9.80% per annum. Until May 1, 2012 (the Amortization Date), the Company must make monthly payments equal to the accrued interest on the outstanding loan balance, and, following the Amortization Date through the Maturity Date the outstanding loan balance will be repaid in thirty (30) equal monthly payments of principal and interest.

As a condition to the Oxford Loan Agreement, a portion of the term loan was used to repay the remaining balance of $7.4 million on our existing term loan agreement with Comerica. Following repayment of the outstanding indebtedness, the Comerica Loan Agreement was terminated. The Company intends to use the remainder of the Oxford term loan to fund our working capital requirements.

The term loan is secured by a senior priority on all of the Company s assets, excluding its intellectual property and those assets securing borrowings under the Atel loan agreement. In addition, the Company agreed not to pledge its intellectual property to another entity without Oxford s approval or consent.

In connection with the entry into the Oxford Loan Agreement, the Company issued to Oxford warrants to purchase an aggregate of 160,128 shares of its common stock (the Warrant Shares) at an exercise price of $7.495 per share. The warrants expire on the seventh anniversary of the issuance date. The Company also agreed to use best efforts to provide Oxford certain registration rights covering the Warrant Shares.

The Oxford Loan Agreement contains customary representations and warranties, covenants, closing and advancing conditions, events of defaults and termination provisions. The affirmative covenants include, among other things, that the Company timely files taxes, maintain certain operating accounts subject to control

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agreements in favor of Oxford, maintain liability and other insurance, and pledge security interests in any ownership interest of a future subsidiary. The negative covenants preclude, among other things, disposing of certain assets, engaging in any merger or acquisition, incurring additional indebtedness, encumbering any collateral, paying dividends or making prohibited investments, in each case, without the prior consent of Oxford. The Oxford Loan Agreement provides that an event of default will occur if (1) there is a material adverse change in the Company s business, operations or condition (financial or otherwise), (2) there is a material impairment in the prospects of the Company repaying any portion of its obligations under the term loan, (3) there is a material impairment in the value of the collateral pledged to secure its obligations under the agreement or in Oxford s perfection or priority over the collateral, (4) the Company defaults in the payment of any amount payable under the agreement when due, or (5) the Company breaches any negative covenant or certain affirmative covenants in the agreement (subject to a grace period in some cases). The repayment of the term loan is accelerated following the occurrence of an event of default or otherwise, which would require the Company to immediately pay an amount equal to the sum of: (i) all outstanding principal plus accrued but unpaid interest, (ii) the prepayment fee, (iii) the final payment, plus (iv) all other sums, that shall have become due and payable but have not been paid, including interest at the default rate with respect to any past due amounts. As of December 31, 2011, the Company was in compliance with all the covenants in the Oxford Loan Agreement. In February 2012, it became evident that the Company would breach a covenant in the Oxford Loan Agreement as its 2011 consolidated financial statements would likely contain an explanatory paragraph regarding substantial doubt about the Company s ability to continue as a going concern in the opinion on the financial statements from the Company s independent registered public accounting firm. In February 2012, the Oxford Loan Agreement was amended to include, among other things, a waiver for this expected covenant violation.

Future loan payments under the Oxford and Atel loan agreements as of December 31, 2011 are as follows:

	(in thousands)
Years Ending December 31,	
2012	$ 9,034
2013	11,202
2014	8,294
Total Payments	28,530
Less:	
Cash interest payment and balloon payment accretion	4,345
Unamortized portion of value of warrants issued in connection with Atel and Oxford loans	924
Total principal payments	23,261
Less: notes payable, current	7,099
Notes payable, net of current	$ 16,162

At December 31, 2011, the fair value of notes payable approximates the book value as market conditions have remained relatively consistent.

Secured Equipment Loan Agreements

In July 2008, the Company entered into a secured equipment loan agreement (Loan) for $13.0 million with SVB, Leader Equity LLC and Oxford Finance Corporation. The Loan was drawn in four tranches between July and December 2008. The interest rate for each tranche drawn under the Loan was set at the greater of 10.50% or the prime rate plus 8.03%, as determined at the time of the draw of each tranche. The interest rate on each of the tranches under the Loan ranged between 10.50% and 11.04%. The Loan required a termination payment be made with the final loan payment under each tranche. The termination payment was 4% of each of the drawn tranche amounts, which caused the loans to have effective interest rates ranging between 12.81% and 13.34%. Repayment of the Loan began one month after the first draw and continued for 36 equal monthly installments. In connection with the Loan, the Company issued warrants to purchase the Company s Series D convertible

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preferred stock, which converted into warrants to purchase shares of the Company s common stock immediately prior to the consummation of the Company s IPO, as discussed in Note 8. The Company pledged as collateral all property and equipment purchased pursuant to the Loan. There are no financial covenants in the Loan. At December 31, 2009, $8.0 million was outstanding under the loans. In connection with the term loans entered into with Comerica and Atel on December 17, 2010, the amount outstanding under the Loan of $4.0 million was repaid. The Company also paid a prepayment penalty of $0.2 million which is recorded in interest expense.

Promissory Notes

In April, May and June 2010, the Company issued promissory notes to certain of its existing investors for an aggregate principal amount of $22.1 million. The principal amount of the promissory notes accrued interest at an annual rate of 8%. In the event that the Company issued shares of a new series of preferred stock with aggregate gross cash proceeds in excess of $17.0 million, the outstanding principal and interest of the promissory notes would automatically convert into that series of preferred stock at the lowest price paid by any investor in the financing (not to exceed $7.56 per share). In August 2010, the promissory notes converted into Series E convertible preferred stock, as discussed in Note 8. In connection with the issuance of the promissory notes, the Company issued warrants to purchase the Company s common stock to the purchasers of the promissory notes, as discussed in Note 11.

Contingencies

The Company is subject to claims and assessments from time to time in the ordinary course of business. The Company s management does not believe that any such matters, individually or in the aggregate, will have a material adverse effect on the Company s business, financial condition, results of operations or cash flows.

Indemnification

In the normal course of business, the Company enters into contracts and agreements that contain a variety of representations and warranties and provide for general indemnifications. The Company s exposure under these agreements is unknown because it involves claims that may be made against the Company in the future, but that have not yet been made. To date, the Company has not paid any claims or been required to defend any action related to its indemnification obligations. However, the Company may record charges in the future as a result of these indemnification obligations.

In accordance with its Certificate of Incorporation and bylaws, the Company has indemnification obligations to its officers and directors for certain events or occurrences, subject to certain limits, while they are serving at the Company s request in such capacity. There have been no claims to date, and the Company has director and officer insurance that enables it to recover a portion of any amounts paid for future potential claims.

Legal Proceedings

On August 3, 2010, a patent infringement lawsuit was filed by Illumina, Inc. and Solexa, Inc. (an entity acquired by Illumina), or the plaintiffs, against the Company in the U.S. District Court in Delaware. On November 9, 2010, the U.S. District Court in Delaware granted the Company s motion to transfer the case to the Northern District of California. The case caption is *Illumina, Inc. and Solexa, Inc. v. Complete Genomics, Inc.*, Civil Action No. 3:10-cv-05542. The complaint alleges that Complete Genomics Analysis Platform, and in particular the combinatorial probe anchor ligation technology, infringes upon three patents held by Illumina and Solexa. The plaintiffs seek unspecified monetary damages and injunctive relief. If the Company is found to infringe one or more valid claims of a patent-in-suit and if the district court grants an injunction, the Company may be forced to redesign portions of its sequencing process, seek a license, cease the infringing activity and/or pay monetary damages, including, for example, treble damages if we are found to have willfully infringed. On September 23, 2010, the Company filed an answer to the complaint as well as its counterclaims against the plaintiffs. On November 9, 2010, the U.S. District Court in Delaware granted the Company s motion to transfer the case to the Northern District of California. On May 5, 2011, the Court entered a stipulated order to dismiss two patents from the lawsuit. The dismissal is without prejudice but includes conditions on the ability to file lawsuits on these

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patents, including a limitation that Illumina may not re-file such lawsuits against the Company until the later of (1) August 1, 2012, or (2) the exhaustion of all appeal rights in both (a) the pending reexaminations in the U.S. Patent and Trademark Office and (b) the pending civil litigation in which these patents are also asserted, *Life Technologies Corp. v. Illumina*, Case No. 3:11-cv-00703 (S.D. Cal.). The Company believes that it has substantial and meritorious defenses to the plaintiffs claims and intends to vigorously defend its position. However, a negative outcome in this matter could have a material adverse effect on the Company s consolidated financial position, results of operations, cash flows and business. In addition, the Company has incurred and anticipates that it will continue to incur significant expense and substantial time in defending these claims. The Company is not currently able to estimate the potential loss, if any, that may result from this litigation.

From time to time, the Company may become involved in other legal proceedings and claims arising in the ordinary course of its business. Other than as described above, the Company is not currently a party to any legal proceedings the outcome of which, if determined adversely to the Company, would individually or in the aggregate has a material adverse effect on its business, consolidated operating results, consolidated financial condition or consolidated cash flows.

8. PREFERRED STOCK

The Company s Certificate of Incorporation, as amended in November 2010, authorizes the Company to issue 5,000,000 shares of $0.001 par value preferred stock. There was no preferred stock issued or outstanding at December 31, 2011 and 2010.

As of December 31, 2009, the convertible preferred stock consisted of the following:

Series	Shares authorized	Shares issued and outstanding	Liquidation amount	Proceeds, net of issuance costs
		(in thousands, except share amounts)		
A	138,658	137,972	$ 6,050	$ 5,866
B	205,758	203,620	14,050	13,871
C	167,357	167,350	39,989	25,399
D	6,421,559	5,964,054	67,632	40,211
	6,933,332	6,472,996	$ 127,721	$ 85,347

In February and March 2010, the Company sold 1,346,762 shares of Series D convertible preferred stock at $7.56 per share to existing investors for net proceeds of $9.9 million.

In August and September 2010, the Company sold 2,284,516 shares of Series E convertible preferred stock at $7.56 per share to existing investors for net proceeds of $17.1 million. The shares sold in the Series E convertible preferred stock financing contained an embedded beneficial conversion feature which was measured as the difference between the proceeds received from the sale of a share of Series E convertible preferred stock and the value of a share of common stock. The beneficial conversion feature was valued at an aggregate of $0.4 million and recorded by the Company as a credit to additional paid-in capital. The beneficial conversion feature was recognized on the date the Series E convertible preferred stock was issued as a result of the Series E convertible preferred stock being convertible at the election of the holder. In addition, in conjunction with the Series E convertible preferred stock financing, the $22.6 million of principal and accrued interest on the Company s convertible promissory notes converted into 2,990,355 shares of Series E convertible preferred stock.

In October 2010, the holders of the Series E convertible preferred stock purchase rights exercised their rights and purchased 1,398,580 and 238,730 shares of Series E convertible preferred stock, respectively, at $7.56 per share, as discussed Note 9.

The total gross proceeds from the Series E financing, including the conversion of the convertible promissory notes and interest, were $52.3 million.

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Each share of Series A, B, C, D and E preferred stock was convertible, at the option of the holder, into that number of fully paid and nonassessable shares of common stock that is equal to $43.85, $69.00, $159.30, $7.56 and $7.56, respectively (as adjusted for stock splits, combinations, reorganizations and the like), divided by the conversion price of $9.50, $11.64, $19.33, $7.56 and $7.56, respectively, (as adjusted for stock splits, combinations, reorganizations and the like).

In November 2010, the holders of more than 60% of the outstanding convertible preferred stock agreed to the automatic conversion of each of the outstanding shares of convertible preferred stock into 17,445,662 shares of common stock at the applicable conversion price effective immediately prior to the consummation of the Company s IPO.

9. WARRANTS AND PURCHASE RIGHTS FOR PREFERRED STOCK

As of December 31, 2011 and 2010, the Company had no warrants or purchase rights for convertible preferred stock outstanding. As of December 31, 2009, the Company had the following unexercised warrants for convertible preferred stock:

Underlying Stock	Exercise price per share	Shares as of December 31, 2009 (in thousands, except share and per share amounts)	Fair value as of December 31, 2009
Series A	$ 43.85	684	$ 5
Series B	$ 69.00	2,131	21
Series D	$ 7.56	381,338	1,527
Total		384,153	$ 1,553

At December 31, 2009, the outstanding warrants for convertible preferred stock were revalued using the Black-Scholes option pricing model with the following assumptions: remaining contractual term ranging from 2.15 to 8.58 years; volatility ranging from 71.98% to 91.55%; 0% dividend rate; and a risk-free interest rate ranging from 1.38% to 3.33%.

Series A

In 2006, the Company issued warrants to purchase 684 shares of Series A convertible preferred stock at an exercise price of $43.85 per share. These warrants were issued in connection with a secured equipment loan agreement with SVB. The initial fair value of the warrants of $36,000 was recorded as a credit to warrant liability and a discount to the carrying value of the debt. The discount was fully amortized in 2008. Immediately prior to the consummation of Company s IPO, these convertible preferred stock warrants converted to warrants for 3,156 shares of common stock with an exercise price of $9.50 per share.

Series B

In 2007, the Company issued warrants to purchase 393 shares of Series B convertible preferred stock at an exercise price of $69.00 per share. These warrants were issued in connection with promissory notes. The initial fair value of the warrants of $25,000 was recorded as a credit to warrant liability and a discount to the carrying value of the debt. The discount on the debt was fully amortized to interest expense upon conversion of the debt in 2007. These warrants automatically expired immediately prior to the consummation of the Company s IPO.

In 2007, the Company issued warrants to purchase 1,738 shares of Series B convertible preferred stock at an exercise price of $69.00 per share. These warrants were issued in connection with the August 2007 secured equipment loan with SVB and Gold Hill. The initial fair value of the warrants of $172,000 was recorded as a credit to warrant liability and an issuance cost of the debt. The issuance cost of the debt was fully amortized in 2008. Immediately prior to the consummation of Company s IPO, these convertible preferred stock warrants converted to warrants for 10,299 shares of common stock with an exercise price of $11.64 per share.

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Series C converted into Series D

In 2008, the Company issued warrants to purchase 4,895 shares of Series C convertible preferred stock at an exercise price of $159.30 per share. These warrants were issued in connection with the July 2008 secured equipment loan. The exercise price and number of warrants were subject to change upon the closing of a Series D convertible preferred stock financing agreement. In conjunction with the Series D convertible preferred stock financing in August 2009, the warrants became exercisable for Series D convertible preferred stock. The conversion resulted in warrants to purchase 103,173 shares of Series D convertible preferred stock with an exercise price of $7.56. The initial fair value of the warrants of $0.8 million was recorded as a credit to warrant liability and an issuance cost of the debt. The issuance cost of the debt was amortized to interest expense over the life of the debt. In 2010 and 2009, the Company had amortized debt issuance costs of $410,000 and $259,000, respectively. Immediately prior to the consummation of the Company s IPO, the convertible preferred stock warrants converted to warrants for 103,173 shares of common stock with an exercise price of $7.56 per share.

Series D

In 2009, the Company issued warrants to purchase 278,165 shares of Series D convertible preferred stock at an exercise price of $7.56 per share. These warrants were issued in connection with promissory notes. The initial fair value of the warrants of $1.5 million was recorded as a credit to warrant liability and a discount to the carrying value of the promissory note. The discount on the promissory notes was amortized to interest expense over the life of the debt in 2009. In August 2009, the discount was fully amortized upon the conversion of the promissory notes. These warrants automatically net exercised into shares of common stock immediately prior to the consummation of the Company s IPO.

Series E

In August and September 2010, the Company issued purchase rights for an aggregate of 1,587,302 shares of Series E convertible preferred stock to the purchasers of its Series E convertible preferred stock. The purchase rights allowed each holder to purchase a pro-rata portion of additional shares of Series E convertible preferred stock at $7.56 per share in the second and third closings of the Series E convertible preferred stock financing. Pursuant to the terms of the Series E convertible preferred stock purchase agreement, the second and third closings were required to occur by December 31, 2010 and 2011, respectively, or an initial public offering, in each case whichever occurred earlier. The initial value of the purchase rights was determined to be an aggregate of $2.7 million of which $1.5 million was recorded as a reduction to the net book value of the Series E convertible preferred stock issued upon conversion of the promissory notes in August 2010 and $1.1 million was recorded as a reduction to the net book value of the Series E convertible preferred stock sold for cash in August and September 2010. The initial valuation of the Series E purchase rights was calculated using the Black-Scholes option pricing model with the following assumptions: contractual term ranging from 0.4 to 1.40 years; volatility ranging from 59.52% to 70.10%; 0% dividend rate; and a risk-free interest rate ranging from 0.19% to 0.25%.

In October 2010, the Series E convertible preferred stock purchase agreement was amended to, among other matters, accelerate the timing of the second and third closings and increase the number of shares to be sold during these closings to an aggregate of 1,637,310 shares. Subsequently, in October 2010, the holders of the Series E convertible preferred stock purchase rights exercised their rights and purchased 1,637,310 shares of Series E convertible preferred stock, respectively, at $7.56 per share for gross proceeds of $12.4 million. Upon exercise of the Series E convertible preferred stock purchase rights, the Company reclassified the value of these rights to preferred stock.

10. COMMON STOCK

The Company s Certificate of Incorporation, as amended in November 2010, authorizes the Company to issue 300,000,000 shares of $0.001 par value common stock.

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In March 2010, the Company granted 786,533 shares of common stock to its founders. The Company recorded the common stock s fair value of $1.8 million as an expense, of which $0.9 million was recorded in general and administrative expense and $0.9 million in research and development expense.

In November 2010, the Company closed its IPO of 6,000,000 shares of common stock at an offering price of $9.00 per share, resulting in net proceeds of approximately $47.2 million, after deducting underwriting discounts, commissions and offering expenses. Immediately prior to the consummation of the Company s IPO, all outstanding shares of preferred stock were converted into common stock, and the associated liquidation preference rights were terminated. In addition, certain of the Company s outstanding preferred and common stock warrants were automatically exercised on a net basis and the remaining outstanding convertible preferred stock warrants automatically converted into warrants to purchase 116,628 shares of common stock, as discussed in Note 11.

11. WARRANTS FOR COMMON STOCK

As of December 31, 2011 and 2010, warrants for 1,533,823 and 2,007,455 shares of common stock, respectively, were outstanding. Warrants for 633,760 shares of common stock were exercised, on a net basis, during 2011, resulting in the issuance of 526,805 shares of common stock.

In March 2011, the Company issued a warrant to purchase 160,128 shares of common stock at an exercise price of $7.495 per share in connection with the Oxford Loan Agreement. The warrant expires on the seventh anniversary of its issuance date. The initial fair value of the warrant was calculated using the Black-Scholes option pricing model with the following assumptions: seven year contractual term; 75.01% volatility; 0% dividend rate; and a risk-free interest rate of 2.87%. The fair value of the warrant was determined to be $987,000 and was recorded as equity in additional paid-in capital and a discount to the carrying value of the loan. The discount is being amortized to interest expense using the effective interest rate method over the 42-month term of the loan.

In December 2010, the Company issued a warrant to purchase 49,834 shares of common stock at an exercise price of $7.224 per share in connection with the Atel Loan Agreement. The warrant expires on the tenth anniversary of its issuance date. The initial fair value of the warrant was calculated using the Black-Scholes option pricing model with the following assumptions: 10 year contractual term; 76.2% volatility; 0% dividend rate; and a risk-free interest rate of 3.33%. The fair value of the warrant was determined to be $282,000 and was recorded as a liability and a discount to the carrying value of the loan. The fair value of the warrant was recorded as a liability due to certain mandatory redemption features at the option of the holder. The discount is being amortized to interest expense using the effective interest rate method over the three-year term of the loan. These warrants were marked to market each reporting period until they were exercised. The final mark to market revaluation of the warrants occurred on June 17, 2011, the date the warrants were exercised.

In November 2010, certain of the Company s outstanding convertible preferred stock warrants automatically converted into warrants to purchase 116,628 shares of common stock, as discussed in Note 9.

During August and September 2010, each investor in Series E convertible preferred stock received common stock warrants for 25% of the number of shares of Series E convertible preferred stock purchased by each investor. Contingent warrants to purchase an aggregate of 1,318,719 shares of common stock were issued. The warrants had an exercise price of $2.69 per share and were to expire on the fifth anniversary of their issuance date, which was the Series E convertible preferred stock purchase date, if not terminated earlier. The warrants were exercisable only if the Company failed to ship genomic data for at least 369 genomes between May 1, 2010 and September 30, 2010. The initial value of the contingent warrants was calculated using the Black-Scholes option pricing model with the following assumptions: five-year contractual term; volatility ranging from 80.71% to 80.87%; 0% dividend rate; and a risk-free interest rate ranging from 1.41% to 1.51%. The value of the warrants was determined to be $2.0 million of which $1.1 million was recorded as a reduction of the net book value of the Series E convertible preferred stock issued upon conversion of the promissory notes in August 2010

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and $0.9 million was recorded as a reduction of the net book value of the Series E convertible preferred stock sold for cash in August and September 2010. On September 29, 2010, the Company s board of directors (the Board) determined that the Company had shipped genomic data for at least 369 genomes between May 1, 2010 and September 30, 2010. Pursuant to their terms the warrants were subsequently terminated and are no longer outstanding as of December 31, 2010.

In connection with the issuance of promissory notes in the second and third quarters of 2010, the Company issued warrants to purchase a number of shares of common stock equal to the product of 5% of the principal amount of the promissory notes and the number of months between the date of issuance of the warrant and the date of the next financing, divided by $1.50. Consequently, contingent warrants to purchase up to an aggregate of 3,707,130 shares of common stock were issued. The warrants have an exercise price of $1.50 per share and expire upon the fifth anniversary of their issuance date which is the same date as the issue date of the relevant promissory notes. The initial value of the contingent warrants was calculated using the Black-Scholes option pricing model with the following assumptions: five-year contractual term; volatility ranging from 80.87% to 81.43%; 0% dividend rate; and a risk-free interest rate ranging from 1.76% to 2.58%. The fair value of the contingent warrants in the amount of $5.4 million was recorded as a credit to additional paid-in capital and as a discount on the proceeds of the promissory notes. The fair value of the warrants was being amortized to interest expense using the effective interest rate method over the term of the promissory notes. On August 6, 2010, upon conversion of the promissory notes into Series E convertible preferred stock, the remaining value of the debt discount of $4.5 million was recorded as an issuance cost of the Series E convertible preferred stock. In connection with the conversion of the promissory notes into Series E convertible preferred stock, the Company determined the actual number of shares of common stock underlying the warrants previously contingently exercisable to be 1,848,849 shares.

In August 2009, the Company issued warrants to purchase 1,630,629 shares of common stock at an exercise price of $1.50 per share. These warrants were issued in connection with the Company s Series D convertible preferred stock offering. The initial fair value of the warrants was calculated using the Black-Scholes option pricing model with the following assumptions: seven-year contractual term; 105.56% volatility; 0% dividend rate; and a risk-free interest rate of 3.21%. The fair value of $2.0 million was allocated to the warrants and recorded as a credit to additional paid-in capital and as a reduction of the proceeds from Series D convertible preferred stock. During November 2010, warrants for 405,542 shares were exercised for cash. Immediately prior to the consummation of the Company s IPO, the remaining outstanding warrants were exercised on a net basis into shares of common stock.

12. STOCK OPTIONS

In 2006, the Company adopted the 2006 Equity Incentive Plan (the 2006 Plan) which provides for the granting of stock options to employees, directors and consultants of the Company. In September 2010, the Board approved the 2010 Equity Incentive Award Plan (the 2010 Plan) and the 2010 Employee Stock Purchase Plan (the 2010 ESPP), and in October 2010, the Company s stockholders approved the 2010 Plan and 2010 ESPP. The 2006 Plan was terminated and no further stock awards will be granted out of the 2006 Plan as of the effectiveness of the 2010 Plan. Outstanding stock options granted under the 2006 Plan will continue to be governed by the provisions of the 2006 Plan until the earlier of the stock option s expiration or exercise.

Equity Incentive Awards

As of December 31, 2011, there were 2,343,819 shares available to be granted under the 2010 Plan. On the first day of each year, the 2010 Plan reserve will be increased by the lesser of (i) 7,000,000 shares, (ii) 4% of the shares of common stock outstanding on the last date of the preceding year and (iii) such smaller number of shares of common stock as determined by the Board. In addition, any options cancelled under the 2006 Plan will be added to the 2010 Plan reserve. Notwithstanding the foregoing, no more than 75,907,243 shares of common stock may be issued upon the exercise of incentive stock options under the 2010 Plan.

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Under the 2010 Plan, the Board, or a committee of the Board, may grant incentive and nonqualified stock options, stock appreciation rights, restricted stock units, or restricted stock awards to employees, directors and consultants to the Company or any subsidiary of the Company. The purpose of the 2010 Plan is to promote the success and enhance the value of the Company by linking the personal interests of the members of the Board, employees and consultants to those of Company stockholders and by providing such individuals with an incentive for outstanding performance to generate superior returns to Company stockholders.

Under both the 2006 and 2010 Plans, options to purchase the Company s common stock may be granted at a price not less than the fair market value (FMV) on the grant date, except for an incentive stock option grant to an employee who owns more than 10% of the voting power of all classes of stock of the Company, in which case the exercise price shall be no less than 110% of the FMV per share on the grant date. The Company has historically granted options that vest over a four-year period. Options expire as determined by the Board of Directors, but not more than ten years after the date of grant.

The following table summarizes stock option activity:

	Outstanding Options			Weighted average remaining contractual life (years)
	Number of shares	Weighted average exercise price	Aggregate intrinsic value	
	(in thousands, except share and per share amounts)			
Outstanding at December 31, 2010	**2,869,747**	**$ 2.19**	**$ 15,166**	**9.03**
Options granted	1,964,625	10.70		
Options exercised	(437,774)	1.63	4,092	
Options forfeited	(293,559)	5.74		
Options expired	(1,086)	9.11		
Outstanding at December 31, 2011	**4,101,953**	**6.06**	**2,414**	**8.57**
Options vested and expected to vest	4,012,747	6.01	2,396	8.56
Options vested and exercisable	1,573,278	$ 3.09	$ 1,662	7.84

Valuation of Stock Option Grants to Employees

The Company estimates the fair value of its stock options granted to employees on the grant date, using the Black-Scholes option valuation model. The fair value of employee stock options is being amortized on a straight-line basis over the requisite service period of the awards. The fair value of employee stock options was estimated using the following assumptions:

	Years ended December 31,		
	2011	2010	2009
Expected term	5.5 years	5.5 years	5.3 6.1 years
Expected volatility	73.4 78.4%	79.0 80.8%	74.0 92.4%
Expected dividend rate	0%	0%	0%
Risk-free interest rate	1.0 2.4%	1.5 2.8%	1.8 2.7%

Risk-Free Interest Rate: The Company determined the risk-free interest rate by using a weighted average assumption equivalent to the expected term based on the U.S. Treasury constant maturity rate as of the date of grant.

Expected Volatility: Prior to the consummation of its IPO on November 16, 2010, the Company determined its future stock price volatility based on the average historical stock price volatility of comparable peer companies. After the consummation of its IPO, the Company used a blend of the historical stock price volatility of comparable peer companies and the historical stock price volatility of the Company s own common stock.

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Expected Term: Due to the limited exercise history of the Company s own stock options, the Company determined the expected term based on the term used by companies that are in a similar industry and life cycle and have comparable revenue and market capitalization.

Expected Dividend Rate: The Company has not paid and does not anticipate paying any dividends in the near future.

Valuation of Stock Option Grants to Nonemployees

Total options outstanding as of December 31, 2011 include 67,442 options that were granted to nonemployees, of which 20,667 options were unvested. The Company mainly grants stock options to nonemployees on its advisory boards. Stock-based compensation expense related to stock options granted to nonemployees is recognized as the stock option is earned. The Company believes that the estimated fair value of the stock options is more readily measurable than the fair value of the services rendered. The fair value of the stock options granted to nonemployees is calculated at each reporting date using the Black-Scholes options pricing model with the following assumptions:

	December 31,	
	2011	2010
Remaining contractual term	8.7 10.0 years	6.9 9.7 years
Expected volatility	74.2%	75.5 76.6%
Expected dividends	0 %	0%
Risk-free interest rate	1.62 1.88%	1.8 3.2%

Restricted Stock Units

During the fourth quarter of 2010, the Company granted 27,500 restricted stock units (RSUs) to members of its board of directors. The weighted-average grant date fair value of the RSUs is $7.75 per share. The restricted stock units vest annually over three years. During 2011, the Company released 7,497 vested RSUs and 5,000 RSUs were forfeited. As of December 31, 2011, 15,003 RSUs remain outstanding.

Employee Stock Purchase Plan

As of December 31, 2011, 1,078,517 shares of common stock are available for issuance under the 2010 ESPP. On the first day of each year, the 2010 ESPP reserve will be increased by the lesser of (i) 2,800,000 shares, (ii) 2% of the shares of common stock outstanding on the last day of the preceding year or (iii) such other number as is determined by the Board. Notwithstanding the foregoing, the reserve may not exceed 28,750,000 shares. Subject to certain limitations, the Company s employees may elect to have 1% to 15% of their compensation withheld through payroll deductions to purchase shares of common stock under the 2010 ESPP. Employees purchase shares of common stock at a price per share equal to 85% of the lower of the fair market value at the start or end of the six-month offering period. During 2011, 189,935 shares were purchased at a per share price of $3.81.

The fair value of each employee stock purchase right grant is estimated on the date of grant using the Black-Scholes option valuation model and is recognized as expense using the straight-line method. The weighted-average estimated fair value of employee stock purchase rights granted pursuant to the ESPP during 2011 was $2.57 per share and was based on the following assumptions:

	2011
Expected term	0.5 years
Expected volatility	56.9 104.3%
Expected dividend rate	0%
Risk-free interest rate	0.1%

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Compensation Expense

During the years ended December 31, 2011, 2010 and 2009, the Company granted stock options to employees and nonemployees to purchase common stock as follows:

	2011	2010	2009
	(in thousands, except share and per share amounts)		
Number of options granted to nonemployees	14,000	37,500	155,711
Number of options granted to employees	1,950,625	1,612,695	1,307,910
Weighted-average grant date fair value per share of options granted to employees	$ 6.89	$ 2.15	$ 1.70
Total fair value of options granted to employees which vested	$ 2,820	$ 749	$ 898

The following table summarizes the stock-based compensation expense from stock option and restricted stock unit grants to employees and nonemployees as well as from the ESPP:

	2011	2010	2009
		(in thousands)	
Employee grants	$ 4,259	$ 1,630	$ 1,142
Nonemployee grants	65	121	268
Total compensation expense	$ 4,324	$ 1,751	$ 1,410

As of December 31, 2011, the Company had unrecognized stock-based compensation expense related to unvested stock options and restricted stock units granted to employees of $12.8 million, which is expected to be recognized over the remaining weighted-average vesting period of 3.12 years.

Stock Option Modifications

In December 2009, the Company modified the vesting schedule of 731,944 options originally granted in November 2009 to approximately 100 employees. The modification did not change the number of options granted, and it did not have a significant impact on the compensation expense recognized in the statement of operations for the year ended December 31, 2009.

In January 2010, the Company modified stock options to purchase 85,477 shares of the Company s common stock held by 106 employees and consultants. The modification did not change any of the other terms or conditions of the options, and it did not have a significant impact on the compensation expense recognized in the statement of operations for the year ended December 31, 2010.

13. RELATED PARTY TRANSACTIONS

In March 2006, the Company entered into an intellectual property license agreement (the Agreement) with Callida Genomics Inc. (Callida), a company owned by the Company s Chief Scientific Officer, for use of certain patents, patent applications, know-how and other intellectual property relating to the Company s core technology. As consideration for the rights and licenses granted in this agreement, the Company issued 13,333 shares of common stock to Callida on March 28, 2006, which was recorded at its fair market value as research and development expense. The Company also made six annual payments of $250,000 which totaled $1.5 million. The agreement also required the Company to pay Callida a cash payment of $1.0 million, which was paid in November 2008 and was recorded as a research and development expense. Additionally, the Company reimbursed Callida $50,000 for the cost of patent prosecution incurred through the date of the agreement.

The intellectual property license agreement with Callida includes several termination provisions, including: any time after 15 months from the contract date until the expiration of the contract term the Company may terminate

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the agreement for any reason, or no reason, by giving Callida written notice of termination. Upon termination of this Agreement, the Company s obligation to make any further payments, including those referred to in the paragraph above, and the Company s right to use any items covered in the license agreement, are both cancelled.

During the years ended December 31, 2010 and 2009, the aggregate expenses under the license agreement were $250,000 in each year. In 2011, the Company capitalized the $250,000 payment.

In November 2007, the Company entered into a consulting agreement with Snezana Drmanac, the wife of Dr. Drmanac, the Company s Chief Scientific Officer and one of its founders. Mrs. Drmanac provides research and development services related to the Company s sequencing technology as an independent contractor. Mrs. Drmanac is compensated at a rate of $150 per hour for her services. In 2011, 2010 and 2009, Mrs. Drmanac was a paid a total of approximately $151,000, $151,000 and $150,000, respectively, for her services pursuant to the consulting agreement. The consulting agreement is for a term of five years and can be terminated by either party with ten days written notice.

In February 2009, the Company entered into promissory notes with various holders of the Company s preferred stock. The borrowings were for an aggregate principal amount of up to $14.7 million, plus simple interest on the outstanding principal amount, at the annual rate of 8%. The Company drew down on the notes for the full principal amount during 2009. The outstanding balance plus interest on the balance was converted into Series D convertible preferred stock during 2009. In connection with the notes, the Company issued warrants to purchase shares of the Company s Series D convertible preferred stock as discussed in Note 11.

14. INCOME TAXES

The Company has not recorded any income tax expense for the years ended December 31, 2011 and 2010 due to its history of operating losses. The tax effects of temporary differences that give rise to significant portions of the deferred tax assets are as follows:

	December 31,	
	2011	2010
	(in thousands)	
Deferred tax assets:		
Net operating loss carryforwards	$ 69,386	$ 43,164
Research and development credits	4,347	2,912
Capitalized start-up costs	3,208	3,467
Accruals and reserves	3,247	2,546
Fixed assets and depreciation	204	251
Deferred tax assets	80,392	52,340
Valuation allowance	(80,392)	(52,340)
Net deferred tax assets	$	$

The Company has established a full valuation allowance against its deferred tax assets due to the uncertainty surrounding realization of these assets. The valuation allowance increased $28.1 million and $19.4 million during the years ended December 31, 2011 and 2010, respectively.

As of December 31, 2011, the Company had net operating loss carryforwards of approximately $174.1 million and $175.2 million available to reduce future taxable income, if any, for federal and California state income tax purposes, respectively. The federal net operating loss carryforward begins expiring in 2026, if not utilized, and the state net operating loss carryforward begins expiring in 2016, if not utilized. The net operating loss related deferred tax assets do not include excess tax benefits from employee stock option exercises.

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As of December 31, 2011, the Company had research and development credit carryforwards of approximately $3.3 million and $3.7 million available to reduce future tax, if any, for federal and California state income tax purposes, respectively. The federal credit carryforwards begin expiring in 2026, and the state credit carryforwards do not expire. Because of net operating loss and credit carryforwards, all of the Company s tax years, dating to inception in 2005 remain open to federal tax examinations. Most state jurisdictions have four open tax years at any point in time.

Utilization of net operating loss and tax credit carryforwards is subject to ownership change rules as provided under the Internal Revenue Code and similar state provisions. The Company has performed an analysis to determine whether an ownership change has occurred from inception to December 31, 2011. The analysis has determined that three ownership changes have occurred during that period. Due to the ownership changes, the utilization of these net operating losses and research credits are subject to annual limitation. The Company believes that as of December 31, 2011, no net operating losses and $0.1 million of research and development credits will expire before utilization due to these ownership changes. In the event the Company has a subsequent change in ownership, net operating loss and research and development credit carryovers could be further limited and may expire unutilized.

The Company adopted the provisions of the FASB s guidance on accounting for uncertainty in income taxes. These provisions provide a comprehensive model for the recognition, measurement and disclosure in financial statements of uncertain income tax position that a company has taken or expects to take on a tax return. Under these provisions, a company can recognize the benefit of an income tax position only if it is more likely than not (greater than 50%) that the tax position will be sustained upon tax examination, based solely on the technical merits of the tax position. Otherwise, no benefit can be recognized. Assessing an uncertain tax position begins with the initial determination of the sustainability if the position and is measured at the largest amount of benefit that is greater than 50% likely of being realized upon ultimate settlement. As of each balance sheet date, unresolved uncertain tax positions must be reassessed. Additionally, companies are required to accrue interest and related penalties, if applicable, on all tax exposures for which reserves have been established consistent with jurisdictional tax laws.

The Company has elected to include interest and penalties as a component of tax expense. The Company does not anticipate that the amount of unrecognized tax benefits relating to tax positions existing at December 31, 2011 will significantly increase or decrease within the next 12 months.

The aggregate changes in the balance of gross unrecognized tax benefits were as follows:

	(in thousands)
January 1, 2009	$ 599
Increases in balances related to tax positions taken during the current period	370
December 31, 2009	969
Increases in balances related to tax positions taken during the current period	300
December 31, 2010	1,269
Increases in balances related to tax positions taken during the current period	496
December 31, 2011	$ 1,765

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15. QUARTERLY FINANCIAL INFORMATION (unaudited)

(In thousands, except share and per share amounts)	First	Second	Third	Fourth
2011				
Revenue	$ 6,833	$ 5,865	$ 4,177	$ 2,469
Net loss	(12,461)	(15,959)	(21,606)	(22,322)
Net loss attributed to common shareholders	(12,461)	(15,959)	(21,606)	(22,322)
Basic and diluted net loss per share attributed to common shareholders	(0.48)	(0.56)	(0.65)	(0.67)
Shares used to compute basic and diluted net loss per share attributed to common shareholders	25,959,929	28,290,407	33,076,940	33,276,980
2010				
Revenue	$ 336	$ 1,089	$ 4,161	$ 3,803
Net loss	(14,336)	(12,631)	(20,456)	(10,264)
Net loss attributed to common shareholders	(14,336)	(12,631)	(20,861)	(10,264)
Basic and diluted net loss per share attributed to common shareholders	(51.15)	(13.93)	(21.87)	(0.69)
Shares used to compute basic and diluted net loss per share attributed to common shareholders	280,283	907,075	954,022	14,820,222

Basic and diluted net loss per share for the four quarters of each fiscal year may not sum to the total for the fiscal year because of the different number of shares outstanding during the period.

In 2011, the Company corrected an error in the recognition of revenue. The error occurred in the three months ended June 30, 2011 and was corrected in the three months ended December 31, 2011. The correction decreased revenue by $0.2 million in the three months ended December 31, 2011. Management has assessed this error and has determined it was not material to the Company s financial results for the three months ended June 30, 2011 and for the year ended December 31, 2011.

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ITEM 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure
None

ITEM 9A. Controls and Procedures
Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of our disclosures controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the Exchange Act), as of December 31, 2011. The term disclosure controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC s rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company s management, including its principal executive and principal financial officers, as appropriate, to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures and has therefore designed our disclosure controls and procedures to provide such reasonable assurance. Based on the evaluation of our disclosure controls and procedures as of December 31, 2011, our Chief Executive Officer and Chief Financial Officer concluded that, as of such date, our disclosure controls and procedures were effective at a reasonable assurance level.

Management s Annual Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act. Internal control over financial reporting is a process designed 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.

Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting as of December 31, 2011 using the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in *Internal Control Integrated Framework*. Based on this evaluation, our management concluded that as of December 31, 2011, our internal control over financial reporting was effective.

The effectiveness of our internal control over financial reporting as of December 31, 2011 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report which is included under Item 8 of this Annual Report.

Changes in Internal Control over Financial Reporting

There was no change in our internal control over financial reporting during the quarter ended December 31, 2011 identified in connection with the evaluation required by Rule 13a-15(d) and 15d-15(d) of the Exchange Act that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. Other Information
None

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PART III

ITEM 10. Directors, Executive Officers and Corporate Governance

The information required by this item is incorporated by reference from the applicable information set forth in Executive Officers, Election of Directors, Information about the Board of Directors and its Committees, and Security Ownership of Directors and Executive Officers Section 16(a) Beneficial Ownership Reporting Requirements which will be included in our definitive Proxy Statement for our 2012 Annual Meeting of Stockholders to be filed with the SEC.

ITEM 11. Executive Compensation

The information required by this item is incorporated by reference from the applicable information set forth in Compensation of Executive Officers and Compensation of Directors which will be included in our definitive Proxy Statement for our 2012 Annual Meeting of Stockholders to be filed with the SEC.

ITEM 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

The information required by this item is incorporated by reference from the applicable information set forth in Security Ownership of Principal Stockholders and Management and Equity Compensation Plan Information which will be included in our definitive Proxy Statement for our 2012 Annual Meeting of Stockholders to be filed with the SEC.

ITEM 13. Certain Relationships and Related Transactions, and Director Independence

The information required by this item is incorporated by reference from the applicable information set forth in Other Information Related Person Transactions and Information about the Board of Directors and its Committees which will be included in our definitive Proxy Statement for our 2012 Annual Meeting of Stockholders to be filed with the SEC.

ITEM 14. Principal Accountant Fees and Services

The information required by this item is incorporated by reference from the applicable information set forth in Other Information Complete Genomics Independent Registered Accounting Firm which will be included in our definitive Proxy Statement for our 2012 Annual Meeting of Stockholders to be filed with the SEC.

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PART IV

ITEM 15. Exhibits and Financial Statement Schedule

(a) The following documents are filed as part of this report:
(1) Financial Statements and Report of Independent Registered Public Accounting Firm

Audited consolidated financial statements of Complete Genomics, Inc.

(2) Consolidated financial statement schedules

All schedules are omitted because they are not required information or the required information is in the financial statements or notes thereto.

(3) Exhibits

See exhibit list.

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EXHIBITS

Exhibit Number	Exhibit Description	Incorporated by Reference Form	Date	Number	Filed Herewith
3.1	Amended and Restated Certificate of Incorporation of Complete Genomics, Inc.	8-K	11/16/2010	3.1	
3.2	Amended and Restated Bylaws of Complete Genomics, Inc.	S-1/A	10/04/2010	3.4	
4.1	Reference is made to exhibits 3.1 and 3.2.				
4.2	Specimen Common Stock Certificate.	S-1/A	10/20/2010	4.2	
4.3	Form of Warrant to purchase shares of Common Stock issued in connection with the 2010 convertible bridge loan financing transaction.	S-1	07/30/2010	4.4	
4.4	Form of Warrant to purchase shares of Common Stock issued in connection with the Loan and Security Agreement, dated September 21, 2006.	S-1	07/30/2010	4.5	
4.5	Form of Warrant to purchase shares of Common Stock issued in connection with the Loan and Security Agreement, dated August 3, 2007.	S-1	07/30/2010	4.7	
4.6	Form of Warrant to purchase shares of Common Stock issued in connection with the Loan and Security Agreement, dated July 30, 2008.	S-1	07/30/2010	4.9	
4.7	Form of Warrant to purchase shares of Common Stock issued in connection with the Loan and Security Agreement with Oxford Finance Corporation, dated March 25, 2011.	10-K	03/30/2011	4.8	
10.1	Fourth Amended and Restated Investor Rights Agreement, dated August 6, 2010, between Complete Genomics, Inc. and certain of its stockholders.	S-1/A	09/10/2010	10.1	
10.2+	Form of Indemnity Agreement for directors and officers.	S-1/A	10/04/2010	10.2	
10.3a	Intellectual Property License Agreement by and between Callida Genomics, Inc. and Complete Genomics, Inc. effective as of March 28, 2006.	S-1	07/30/2010	10.3a	
10.3b	Amendment to the Intellectual Property License Agreement, effective as of December 17, 2008, by and between Callida Genomics, Inc. and Complete Genomics, Inc.	S-1	07/30/2010	10.3b	
10.4a	Loan and Security Agreement, dated July 30, 2008, by and among Silicon Valley Bank, Oxford Finance Corporation, Leader Lending LLC Series A, Leader Lending LLC Series B and Complete Genomics, Inc.	S-1	07/30/2010	10.4a	
10.4b	Loan and Security Agreement, dated December 17, 2010, by and between Comerica Bank and Complete Genomics, Inc.	10-K	03/30/2011	10.4b	

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Exhibit Number	Exhibit Description	Incorporated by Reference Form	Date	Number	Filed Herewith
10.4c	Loan and Security Agreement, dated December 17, 2010, by and between Atel Ventures, Inc. and Complete Genomics, Inc.	10-K	03/30/2011	10.4c	
10.4d	First Amendment to the Loan and Security Agreement dated December 17, 2010 by and between Atel Ventures, Inc. and Complete Genomics, Inc. dated March 25, 2011.	10-K	03/30/2011	10.4d	
10.4e	Loan and Security Agreement, dated March 25, 2011, by and between Oxford Finance Corporation and Complete Genomics, Inc.	10-K	03/30/2011	10.4e	
10.4f	Amendment No. 1 to the Loan and Security Agreement by and between Oxford Finance Corporation and Complete Genomics, Inc. effective August 22, 2011.				X
10.4g	Amendment No. 2 to the Loan and Security Agreement by and between Oxford Finance Corporation and Complete Genomics, Inc. effective February 28, 2012.				X
10.4h	Amendment No. 2 to the Loan and Security Agreement by and between Atel Finance Corporation and Complete Genomics, Inc. effective February 29, 2012.				X
10.5	Lease Agreement by and between Britania Hacienda VIII, LLC and Complete Genomics, Inc., dated October 31, 2008.	S-1	07/30/2010	10.5	
10.6a+	Complete Genomics, Inc. 2006 Equity Incentive Plan, as amended.	S-1	07/30/2010	10.6a	
10.6b+	Complete Genomics, Inc. 2006 Equity Incentive Plan, as amended.	S-1	07/30/2010	10.6b	
10.7a+	Complete Genomics, Inc. 2010 Equity Incentive Award Plan.	S-1/A	10/20/2010	10.7a	
10.7b+	Form of Stock Option Grant Notice and Stock Option Agreement under the 2010 Equity Incentive Award Plan.	S-1/A	10/20/2010	10.7b	
10.8+	Offer letter employment agreement, by and between Complete Genomics, Inc. and Bruce Martin, dated March 26, 2010.	S-1	07/30/2010	10.8	
10.9+	Offer letter employment agreement, by and between Complete Genomics, Inc. and Mark J. Sutherland, dated March 11, 2010.	S-1	07/30/2010	10.9	
10.10+	Offer letter employment agreement, by and between Complete Genomics, Inc. and Ajay Bansal, dated May 7, 2010.	S-1	07/30/2010	10.10	

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Exhibit Number	Exhibit Description	Incorporated by Reference Form	Date	Number	Filed Herewith
10.11a+	Severance Agreement, by and between Complete Genomics, Inc. and Clifford A. Reid, Ph.D., dated March 28, 2006.	S-1	07/30/2010	10.11a	
10.11b+	Amendment to Severance Agreement, by and between Complete Genomics, Inc. and Clifford A. Reid, Ph.D., dated December 31, 2008.	S-1	07/30/2010	10.11b	
10.12a+	Severance Agreement, by and between Complete Genomics, Inc. and Robert J. Curson, dated March 28, 2006.	S-1	07/30/2010	10.12a	
10.12b+	Amendment to Severance Agreement, by and between Complete Genomics, Inc. and Robert J. Curson, dated December 31, 2008.	S-1	07/30/2010	10.12b	
10.13a+	Severance Agreement, by and between Complete Genomics, Inc. and Radoje Drmanac, Ph.D., dated March 28, 2006.	S-1	07/30/2010	10.13z	
10.13b+	Amendment to Severance Agreement, by and between Complete Genomics, Inc. and Radoje Drmanac, Ph.D., dated December 31, 2008.	S-1	07/30/2010	10.13b	
10.14+	Complete Genomics, Inc. Nonemployee Director Compensation Policy.	S-1/A	10/04/2010	10.14	
10.15+	Complete Genomics, Inc. Employee Stock Purchase Plan.	S-1/A	10/20/2010	10.15	
10.16+	Offer Letter Employment Agreement, by and between Complete Genomics, Inc. and Keith Raffel, dated June 24, 2011.	10-Q	8/15/2011	10.1	
10.17+	Executive Change in Control and Severance Plan dated May 5, 2011.				X
10.18+	Leadership Incentive Plan dated April 11, 2011.				X
23.1	Consent of Independent Registered Public Accounting Firm.				X
31.1	Certification of Chief Executive Officer of Complete Genomics, Inc., as required by Rule 13a-14(a) or Rule 15d-14(a).				X
31.2	Certification of Chief Financial Officer of Complete Genomics, Inc., as required by Rule 13a-14(a) or Rule 15d-14(a).				X
32.1	Certification by the Chief Executive Officer, as required by Rule 13a-14(b) or Rule 15d-14(b) and Section 1350 of Chapter 36 of Title 18 of the United States Code (18 U.S.C. §1350).**				X
32.2	Certification by the Chief Financial Officer, as required by Rule 13a-14(b) or Rule 15d-14(b) and Section 1350 of Chapter 36 of Title 18 of the United States Code (18 U.S.C. §1350).**				X

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Exhibit Number	Exhibit Description	Incorporated by Reference Form	Date	Number	Filed Herewith
101.1	The following materials from the Registrant s Annual Report on Form 10-K for the year ended December 31, 2011 are formatted in XBRL (eXtensible Business Reporting Language): (i) the Condensed Consolidated Balance Sheets, (ii) the Condensed Consolidated Statements of Operations, (iii) the Condensed Consolidated Statements of Cash Flows, and (iv) Notes to Condensed Consolidated Financial Statements.*				

* Pursuant to Rule 406T of Regulation S-T, the XBRL files on Exhibit 101 hereto are deemed not filed or part of a registration statement or prospectus for purposes of Sections 11 or 12 of the Securities Act of 1933, as amended, are deemed not filed for purposes of Section 18 of the Securities and Exchange Act of 1934, as amended, and otherwise are not subject to liability under those sections.

** The certifications attached as Exhibits 32.1 and 32.2 that accompanies this Annual Report on Form 10-K are not deemed filed with the Securities and Exchange Commission and are not to be incorporated by reference into any filing of Complete Genomics, Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, whether made before or after the date of this Form 10-K, irrespective of any general incorporation language contained in such filing.

\+ Indicates management contract or compensatory plan.

Confidential treatment has been granted for certain portions of this exhibit. Omitted information has been filed separately with the SEC.

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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.

COMPLETE GENOMICS, INC.

March 9, 2012

By: /s/ AJAY BANSAL
Ajay Bansal
Chief Financial Officer

(Principal Financial and Accounting Officer)

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Clifford A. Reid, Ph.D and Ajay Bansal, and each of them, as his true and lawful attorneys-in-fact and agents, with full power of substitution for him, and in his name in any and all capacities, to sign any and all amendments to this Annual Report on Form 10-K, and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done therewith, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, and any of them, his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

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 and on the dates indicated.

Signature	Title	Date
/s/ CLIFFORD A. REID **Clifford A. Reid, Ph.D.**	Chairman, President and Chief Executive Officer (Principal Executive Officer)	March 9, 2012
/s/ AJAY BANSAL **Ajay Bansal**	Chief Financial Officer (Principal Financial and Accounting Officer)	March 9, 2012
/s/ C. THOMAS CASKEY **C. Thomas Caskey, M.D.**	Director	March 9, 2012
/s/ CARL L. GORDON **Carl L. Gordon, Ph.D., CFA**	Director	March 9, 2012
/s/ ANDREW E. SENYEI **Andrew E. Senyei, M.D.**	Director	March 9, 2012
/s/ LEWIS J. SHUSTER **Lewis J. Shuster**	Director	March 9, 2012
/s/ CHARLES P. WAITE, JR. **Charles P. Waite, Jr.**	Director	March 9, 2012
/s/ ROBERT T. WALL **Robert T. Wall**	Director	March 9, 2012

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EXHIBITS

Exhibit Number	Exhibit Description	Incorporated by Reference Form	Date	Number	Filed Herewith
3.1	Amended and Restated Certificate of Incorporation of Complete Genomics, Inc.	8-K	11/16/2010	3.1	
3.2	Amended and Restated Bylaws of Complete Genomics, Inc.	S-1/A	10/04/2010	3.4	
4.1	Reference is made to exhibits 3.1 and 3.2.				
4.2	Specimen Common Stock Certificate.	S-1/A	10/20/2010	4.2	
4.3	Form of Warrant to purchase shares of Common Stock issued in connection with the 2010 convertible bridge loan financing transaction.	S-1	07/30/2010	4.4	
4.4	Form of Warrant to purchase shares of Common Stock issued in connection with the Loan and Security Agreement, dated September 21, 2006.	S-1	07/30/2010	4.5	
4.5	Form of Warrant to purchase shares of Common Stock issued in connection with the Loan and Security Agreement, dated August 3, 2007.	S-1	07/30/2010	4.7	
4.6	Form of Warrant to purchase shares of Common Stock issued in connection with the Loan and Security Agreement, dated July 30, 2008.	S-1	07/30/2010	4.9	
4.7	Form of Warrant to purchase shares of Common Stock issued in connection with the Loan and Security Agreement with Oxford Finance Corporation, dated March 25, 2011.	10-K	03/30/2011	4.8	
10.1	Fourth Amended and Restated Investor Rights Agreement, dated August 6, 2010, between Complete Genomics, Inc. and certain of its stockholders.	S-1/A	09/10/2010	10.1	
10.2+	Form of Indemnity Agreement for directors and officers.	S-1/A	10/04/2010	10.2	
10.3a	Intellectual Property License Agreement by and between Callida Genomics, Inc. and Complete Genomics, Inc. effective as of March 28, 2006.	S-1	07/30/2010	10.3a	
10.3b	Amendment to the Intellectual Property License Agreement, effective as of December 17, 2008, by and between Callida Genomics, Inc. and Complete Genomics, Inc.	S-1	07/30/2010	10.3b	
10.4a	Loan and Security Agreement, dated July 30, 2008, by and among Silicon Valley Bank, Oxford Finance Corporation, Leader Lending LLC Series A, Leader Lending LLC Series B and Complete Genomics, Inc.	S-1	07/30/2010	10.4a	

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Exhibit Number	Exhibit Description	Incorporated by Reference Form	Date	Number	Filed Herewith
10.4b	Loan and Security Agreement, dated December 17, 2010, by and between Comerica Bank and Complete Genomics, Inc.	10-K	03/30/2011	10.4b	
10.4c	Loan and Security Agreement, dated December 17, 2010, by and between Atel Ventures, Inc. and Complete Genomics, Inc.	10-K	03/30/2011	10.4c	
10.4d	First Amendment to the Loan and Security Agreement dated December 17, 2010 by and between Atel Ventures, Inc. and Complete Genomics, Inc. dated March 25, 2011.	10-K	03/30/2011	10.4d	
10.4e	Loan and Security Agreement, dated March 25, 2011, by and between Oxford Finance Corporation and Complete Genomics, Inc.	10-K	03/30/2011	10.4e	
10.4f	Amendment No. 1 to the Loan and Security Agreement by and between Oxford Finance Corporation and Complete Genomics, Inc. effective August 22, 2011.				X
10.4g	Amendment No. 2 to the Loan and Security Agreement by and between Oxford Finance Corporation and Complete Genomics, Inc. effective February 28, 2012.				X
10.4h	Amendment No. 2 to the Loan and Security Agreement by and between Atel Finance Corporation and Complete Genomics, Inc. effective February 29, 2012.				X
10.5	Lease Agreement by and between Britania Hacienda VIII, LLC and Complete Genomics, Inc., dated October 31, 2008.	S-1	07/30/2010	10.5	
10.6a+	Complete Genomics, Inc. 2006 Equity Incentive Plan, as amended.	S-1	07/30/2010	10.6a	
10.6b+	Complete Genomics, Inc. 2006 Equity Incentive Plan, as amended.	S-1	07/30/2010	10.6b	
10.7a+	Complete Genomics, Inc. 2010 Equity Incentive Award Plan.	S-1/A	10/20/2010	10.7a	
10.7b+	Form of Stock Option Grant Notice and Stock Option Agreement under the 2010 Equity Incentive Award Plan.	S-1/A	10/20/2010	10.7b	
10.8+	Offer letter employment agreement, by and between Complete Genomics, Inc. and Bruce Martin, dated March 26, 2010.	S-1	07/30/2010	10.8	
10.9+	Offer letter employment agreement, by and between Complete Genomics, Inc. and Mark J. Sutherland, dated March 11, 2010.	S-1	07/30/2010	10.9	

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Exhibit Number	Exhibit Description	Incorporated by Reference Form	Date	Number	Filed Herewith
10.10+	Offer letter employment agreement, by and between Complete Genomics, Inc. and Ajay Bansal, dated May 7, 2010.	S-1	07/30/2010	10.10	
10.11a+	Severance Agreement, by and between Complete Genomics, Inc. and Clifford A. Reid, Ph.D., dated March 28, 2006.	S-1	07/30/2010	10.11a	
10.11b+	Amendment to Severance Agreement, by and between Complete Genomics, Inc. and Clifford A. Reid, Ph.D., dated December 31, 2008.	S-1	07/30/2010	10.11b	
10.12a+	Severance Agreement, by and between Complete Genomics, Inc. and Robert J. Curson, dated March 28, 2006.	S-1	07/30/2010	10.12a	
10.12b+	Amendment to Severance Agreement, by and between Complete Genomics, Inc. and Robert J. Curson, dated December 31, 2008.	S-1	07/30/2010	10.12b	
10.13a+	Severance Agreement, by and between Complete Genomics, Inc. and Radoje Drmanac, Ph.D., dated March 28, 2006.	S-1	07/30/2010	10.13z	
10.13b+	Amendment to Severance Agreement, by and between Complete Genomics, Inc. and Radoje Drmanac, Ph.D., dated December 31, 2008.	S-1	07/30/2010	10.13b	
10.14+	Complete Genomics, Inc. Nonemployee Director Compensation Policy.	S-1/A	10/04/2010	10.14	
10.15+	Complete Genomics, Inc. Employee Stock Purchase Plan.	S-1/A	10/20/2010	10.15	
10.16+	Offer Letter Employment Agreement, by and between Complete Genomics, Inc. and Keith Raffel, dated June 24, 2011.	10-Q	8/15/2011	10.1	
10.17+	Executive Change in Control and Severance Plan dated May 5, 2011.				X
10.18+	Leadership Incentive Plan dated April 11, 2011.				X
23.1	Consent of Independent Registered Public Accounting Firm.				X
31.1	Certification of Chief Executive Officer of Complete Genomics, Inc., as required by Rule 13a-14(a) or Rule 15d-14(a).				X
31.2	Certification of Chief Financial Officer of Complete Genomics, Inc., as required by Rule 13a-14(a) or Rule 15d-14(a).				X
32.1	Certification by the Chief Executive Officer, as required by Rule 13a-14(b) or Rule 15d-14(b) and Section 1350 of Chapter 36 of Title 18 of the United States Code (18 U.S.C. §1350).**				X

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Exhibit Number	Exhibit Description	Incorporated by Reference Form	Date	Number	Filed Herewith
32.2	Certification by the Chief Financial Officer, as required by Rule 13a-14(b) or Rule 15d-14(b) and Section 1350 of Chapter 36 of Title 18 of the United States Code (18 U.S.C. §1350).**				X
101.1	The following materials from the Registrant s Annual Report on Form 10-K for the year ended December 31, 2011 are formatted in XBRL (eXtensible Business Reporting Language): (i) the Condensed Consolidated Balance Sheets, (ii) the Condensed Consolidated Statements of Operations, (iii) the Condensed Consolidated Statements of Cash Flows, and (iv) Notes to Condensed Consolidated Financial Statements.*				

* Pursuant to Rule 406T of Regulation S-T, the XBRL files on Exhibit 101 hereto are deemed not filed or part of a registration statement or prospectus for purposes of Sections 11 or 12 of the Securities Act of 1933, as amended, are deemed not filed for purposes of Section 18 of the Securities and Exchange Act of 1934, as amended, and otherwise are not subject to liability under those sections.

** The certifications attached as Exhibits 32.1 and 32.2 that accompanies this Annual Report on Form 10-K are not deemed filed with the Securities and Exchange Commission and are not to be incorporated by reference into any filing of Complete Genomics, Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, whether made before or after the date of this Form 10-K, irrespective of any general incorporation language contained in such filing.

\+ Indicates management contract or compensatory plan.

Confidential treatment has been granted for certain portions of this exhibit. Omitted information has been filed separately with the SEC.