FLUIDIGM CORP
Form 10-K
March 26, 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

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: 001-34180

FLUIDIGM CORPORATION

(Exact name of registrant as specified in its charter)

Delaware	**77-0513190**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification Number)**

7000 Shoreline Court, Suite 100

South San Francisco, California 94080

(Address of principal executive offices) (Zip Code)

(650) 266-6000

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 per Share	The NASDAQ Global Market

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 of 1933, as amended. 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 Securities Exchange Act of 1934, as amended. 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 the 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. x

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 ¨
Non-accelerated filer x (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

As of June 30, 2011, the last business day of the registrant s most recently completed second fiscal quarter, the aggregate market value of voting and non-voting common equity held by non-affiliates of the registrant was approximately $181,673,552 (based on a closing sale price of $16.77

per share as reported for the NASDAQ Global Market on June 30, 2011). For purposes of this calculation, shares of common stock beneficially owned by the registrant s current officers and directors as of June 30, 2011 and shares of common stock held by persons who currently hold more than 10% of the outstanding common stock of the registrant (based solely upon Schedule 13G filings made with the SEC in February 2012) have been excluded from this calculation because such persons may be deemed to be affiliates. This determination of executive officer or affiliate status is not necessarily a conclusive determination for other purposes.

The number of shares of the registrant s common stock, $0.001 par value per share, outstanding as of February 29, 2012 was 20,421,444.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant s definitive Proxy Statement relating to its 2012 Annual Meeting of Stockholders are incorporated by reference into Part III of this Form 10-K where indicated.

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Special Note Regarding Forward-looking Statements and Industry Data

This Form 10-K contains forward-looking statements that are based on our management s beliefs and assumptions and on information currently available to our management. The forward-looking statements are contained principally in the sections entitled Risk factors, Management s discussion and analysis of financial condition and results of operations, and Business. Forward-looking statements include information concerning our possible or assumed future results of operations, business strategies, financing plans, competitive position, industry environment, potential growth opportunities and the effects of competition. Forward-looking statements include statements that are not historical facts and can be identified by terms such as anticipates, believes, could, seeks, estimates, expects, intends, may, plans, potential, predicts, will, would or similar expressions and the negatives of those terms.

Forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. We discuss these risks in greater detail in the section entitled Risk factors and elsewhere in this Form 10-K. Given these uncertainties, you should not place undue reliance on these forward-looking statements.

Forward-looking statements represent our management s beliefs and assumptions only as of the date of this Form 10-K. Except as required by law, we assume no obligation to update these forward-looking statements, or to update the reasons actual results could differ materially from those anticipated in these forward-looking statements, even if new information becomes available in the future. You should read this Form 10-K completely and with the understanding that our actual future results may be materially different from what we expect.

Corporate information

We were incorporated in California in May 1999 as Mycometrix Corporation, changed our name to Fluidigm Corporation in April 2001 and reincorporated in Delaware in July 2007. Our principal executive offices are located at 7000 Shoreline Court, Suite 100, South San Francisco, California 94080. Our telephone number is (650) 266-6000. Our website address is www.fluidigm.com. Information contained on our website is not incorporated by reference into this Form 10-K and should not be considered to be part of this Form 10-K.

Fluidigm, the Fluidigm logo, BioMark, Dynamic Array, Digital Array, Access Array, EP1, FC1, MSL, NanoFlex, SNPtype a trademarks or registered trademarks of Fluidigm Corporation. Other service marks, trademarks and trade names referred to in this Form 10-K are the property of their respective owners.

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PART I

ITEM 1. BUSINESS

Overview

We develop, manufacture and market microfluidic systems for growth markets, such as single-cell genomics, applied genotyping and sample preparation for targeted resequencing, in the life science and agricultural biotechnology, or Ag-Bio, industries. Our proprietary microfluidic systems consist of instruments and consumables, including chips, assays and other reagents. These systems are designed to significantly simplify experimental workflow, increase throughput and reduce costs, while providing the excellent data quality demanded by customers. In addition, our proprietary technology enables genetic analysis that in many instances was previously impractical. We actively market three microfluidic systems, including eight different commercial chips for nucleic acid research and three families of assays, to leading academic institutions, diagnostic laboratories, and pharmaceutical, biotechnology and Ag-Bio companies. We have sold over 500 systems to customers in over 25 countries worldwide.

To achieve and exploit advances in life science research, Ag-Bio and molecular diagnostics, laboratories need robust systems that deliver high throughput and simpler workflows at decreased costs. Our microfluidic systems are designed to overcome many of the limitations of conventional laboratory systems by integrating a vast number of fluidic components on a single microfabricated chip. Our technology enables our customers to perform and measure thousands of sophisticated biochemical reactions on samples smaller than the content of a single cell, while utilizing minute volumes of reagents and samples. Similarly, for next generation DNA sequencing, our systems enable rapid preparation of multiple samples in parallel at low cost.

We have successfully commercialized our BioMark, BioMark HD and EP1 systems for genetic analysis and our Access Array system for next generation DNA sequencing sample preparation. Researchers and clinicians have successfully employed our products to help achieve breakthroughs in a variety of fields, including single-cell genomics, genetic variation, cellular function and applied genetics. These include using our microfluidic systems to help detect life-threatening mutations in patients cancer cells, discover cancer associated biomarkers, analyze the genetic composition of individual stem cells, and assess the quality of agricultural products, such as seeds or livestock. We believe our Access Array system resolves a critical workflow bottleneck that exists in all commercial next generation DNA sequencing platforms and provides fast, simple, low-cost preparation of samples for targeted resequencing. We expect that the versatility of our microfluidic technology will enable us to develop additional applications across a wide variety of markets.

We have grown our total revenue from $25.4 million in 2009 to $42.9 million in 2011. Our product margin has increased from 51% in 2009 to 67% in 2011. We have incurred significant net losses since our inception, including net losses of $32.4 million in 2011.

Our Target Markets

The current markets for our products include life science research and Ag-Bio. In addition, we are developing products for use in molecular diagnostics and other markets.

Life Science Research

Our primary area of focus within life science research is genetic analysis, the study of genes and their functions. The sum total of the hereditary material of an organism is known as its genome, which is commonly organized into functional units known as genes. Analysis of variations in genomes, genes and gene activity in and between organisms can provide tremendous insight into their health and functioning. There are several forms of genetic analysis in use today, including gene expression analysis, genotyping and DNA sequencing.

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Gene expression and genotyping are studied through a combination of various technology platforms that characterize gene function and genetic variation. These platforms often rely on polymerase chain reaction, or PCR, amplification to generate exponential copies of a DNA sample to provide sufficient signal to facilitate detection. Real-time quantitative PCR, or real-time qPCR, is a more advanced form of PCR that makes it possible to identify the number of copies of DNA present in a sample.

The scale of genetic research varies widely. At one end, researchers sometimes examine a limited number of genetic variations in a relatively small population. At the other end, researchers may perform genome-wide association studies where hundreds of thousands of possible genetic variations are examined across thousands or tens of thousands of samples. Researchers are rarely able to discover scientifically relevant information by examining just a few genetic variations because of the inherent complexity of biological systems. In contrast, the result of many genome-wide association studies is simply the identification of a more limited set of genetic variations that need to be examined in a larger population. As a result, some of the most productive life science research is done at a mid-multiplex scale, where tens or hundreds of genetic variations are examined in hundreds or thousands of samples.

We target the following specific areas of life science research, and our products are used for mid-multiplex research or applications of a similar scale:

Gene Expression Analysis. Gene expression analysis is a form of genetic analysis that focuses on measuring gene expression. The genome is typically made up of DNA, except in some viruses which utilize RNA. Typically, the process of gene expression involves the generation of RNA copies of specific regions of the genome by a process known as transcription. Such RNA copies are known as messenger RNAs. Messenger RNAs may then be translated by the cell into a protein which may affect the activity of the cell or the larger organism. One prevalent form of gene expression analysis measures the levels of messenger RNA in an individual cell to determine how the activity of particular genes or sets of genes affect the cell or the organism.

Genotyping. Genotyping involves the analysis of variations across individual genomes. A common application of genotyping focuses on analyzing variations of single nucleotides, known as a single nucleotide polymorphism, or SNP. In SNP genotyping studies, statistical analyses are performed to determine whether a SNP or group of SNPs are associated with a particular characteristic, such as propensity for a disease. Haplotyping is an application of genotyping in which SNPs located at different loci on the same chromosome are studied simultaneously.

Single-Cell Genomics. Single-cell genomics is a rapidly emerging area of genetic research that requires specialized tools and techniques. Genetic research typically involves the analysis of samples containing thousands of cells and many different cell types. When such samples are studied using traditional gene expression analysis, the results obtained reflect a rough average of the activity of all of the cells in the sample. Recently, researchers have demonstrated that this approach often masks critical differences in gene expression levels between different cell types and even between individual cells of the same type. In addition, in the fields of in-vitro fertilization and stem cell research, researchers are often required to examine single cells because the number of cells available for analysis is inherently limited. The scope of this research has often been constrained because the small amount of genetic material in a single cell prevents conventional methods from analyzing the activity of more than a few genes. Furthermore, large numbers of samples are required to determine the heterogeneous signatures of sub-populations of cells and large research studies like these can be prohibitively expensive or impractical when performed on conventional platforms. Single-cell genomic researchers need to conduct a high number of tests on a large volume of cells, which in combination translates into thousands of experiments that must be accurate, fast, simple and low cost.

Sample Preparation for Next Generation DNA Sequencing. Through a process known as sequencing, researchers are able to determine the particular order of nucleotide bases that comprise all or a portion of a particular genome. In the last few years, researchers have begun to use next generation DNA sequencers to

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rapidly and cost-effectively sequence portions of the genomes of many individuals and identify genetic variations that correlate with particular characteristics. Next generation DNA sequencing technologies have dramatically reduced the cost and processing time for genetic sequencing, but to be utilized effectively, require large numbers of unique samples. In addition, next generation DNA sequencing requires new sample preparation methodologies, including adding identification tags to each segment of each individual sample that is to be sequenced. These sample preparation and tagging processes, known as target enrichment, are complex and require precise measurement and manipulation of minute quantities of DNA and reagents.

Digital PCR. Digital PCR allows researchers to detect nucleic acid sequences that are present in sample concentrations that are too small to be accurately measured by conventional methods. Digital PCR typically relies on standard PCR techniques, but increases their sensitivity by dividing a sample into hundreds or thousands of smaller samples and then performing a PCR assay on each such sample. The ability to count the presence or absence of amplification in this assay format allows for absolute quantitative measurement capabilities. As a result, digital PCR can perform more precise detection of rare mutations, or copy number measurements, as compared to real-time qPCR.

Agricultural Biotechnology

Genetic analysis techniques, such as SNP genotyping, have become increasingly useful in Ag-Bio applications, including wildlife population studies, agricultural quality control and commercial genetic engineering and identification. These applications typically require the analysis of hundreds or thousands of SNPs to achieve representative samples and attain useful information. Due to these demands, commercially viable genetic analysis tools in Ag-Bio must be inexpensive, easy to use and able to provide extremely high throughput. Below a certain cost per data point, we believe Ag-Bio customers would choose to analyze the genome of each animal or sample.

Molecular Diagnostics

Recent advances in genetic analysis technology are increasingly being used for clinical applications. Techniques such as SNP genotyping, gene expression analysis and other genetic correlation studies are used to identify disease susceptibility and to diagnose, classify and monitor disease progression. Molecular diagnostic tests based on measuring these genetic markers have the potential to be much more accurate and robust than conventional diagnostics. Within molecular diagnostics, an area of significant clinical interest is non-invasive prenatal diagnostics, or NIPD, for fetal aneuploidies. The traditional diagnostic tests are invasive and carry risks to the fetus. More recently, other diagnostics tests based on next generation DNA sequencing have become available and are not invasive. We are collaborating with Novartis Vaccines & Diagnostics, Inc., or Novartis V&D, to develop products to target this NIPD market for fetal aneuploidies.

The Limitations of Existing Laboratory Systems

Academic, clinical and industrial researchers are increasingly performing genetic analysis on large sample sizes and assay sets. These experiments are typically performed using systems consisting of 384 well or larger microplates, pipetting stations, robotic plate movers and other elements of laboratory equipment. However, these conventional systems require an extremely complex workflow involving thousands of pipetting steps, hundreds of microplates and, despite the use of robotics, extensive human intervention. Such complexity limits the throughput of laboratories and increases the possibility of errors and variability between experiments. In addition, these systems typically are unable to perform experiments with low fluid volumes, leading to excessive consumption of reagents and inconsistent results.

In response to the limitations of conventional systems, numerous other methods of genetic analysis, including microarrays, pre-formatted arrays, bead arrays, microdroplets and mass spectrometer analysis have been developed. However, each of these high-throughput methods has one or more limitations that reduce its

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utility, particularly for mid-multiplex experimentation. Microarrays, pre-formatted arrays and bead arrays all lack flexibility because researchers must specify the assays they wish to perform at the time the products are ordered. This in turn limits researchers ability to refine their assay panel during the course of a study. In addition, if researchers wish to use assay panels other than a manufacturer s standard panels, they must wait for a customized product to be produced.

The quality of the data produced by microarrays, pre-formatted arrays and mass spectrometer analysis is insufficient for certain research activities. For genotyping studies, data quality is typically measured by call rate, which is the frequency of a reading with respect to a particular SNP. Both pre-formatted arrays and mass spectrometer analysis generally have call rates lower than real-time qPCR performed in microplates. For gene expression studies, it is often important to measure expression levels over a broad dynamic range to capture all or most of the variation found among subjects. Microarrays, pre-formatted arrays, bead arrays or mass spectrometer analysis cannot measure gene expression levels over as broad a dynamic range as real-time qPCR performed in microplates. In addition, most of these techniques require large sample volumes making single-cell expression analysis impossible or inaccurate.

The workflow for bead arrays and mass spectrometer analysis is complex, time consuming and costly. For example, standard protocols often require multiple complex operations to be performed over several days by skilled technicians. Also, certain pre-formatted arrays require significant manual intervention, which significantly increases costs and potential for error. These methods can also be very costly for mid-multiplex experimentation. For example, a single microarray or bead array is capable of analyzing thousands of genes from a single sample. These devices have been successfully used for surveying the genome to discover basic patterns of genetic variation. These surveys are commonly performed on tens or hundreds of samples and are intended to identify a subset of genes for further investigation. However, for validation studies, which typically require the analysis of thousands or tens of thousands of samples, the high per sample cost of microarrays and bead arrays often make them uneconomical. Similarly, the high initial setup costs for mass spectrometry analysis generally make it economically feasible only for very large-scale studies.

While the cost and processing time for genetic sequencing has plummeted with next generation DNA sequencing technologies, improvements in sample preparation has lagged to the extent that sample preparation now represents the major bottleneck from both a cost and time perspective in the sequencing process. Microdroplet technologies have been proposed as a means to accelerate the sample preparation and tagging process for next generation DNA sequencing. However, this technique can process only one sample at a time, is expensive and cannot be validated prior to sequencing.

The limitations of existing technologies become even more acute when clinicians attempt to translate scientific research into commercial molecular diagnostics. Given the nature of their operations, commercial clinical laboratories need systems that can test large numbers of patient samples at low cost and with minimal labor requirements. Moreover, many of the most promising research studies rely on measuring each sample across tens or even hundreds of genetic markers to diagnose or classify a disease. We believe that using standard microplate technology to make multiple measurements on a large number of samples is often too complex and expensive for most clinical laboratories. Similarly, many of the limitations of microarrays, pre-formatted arrays, bead arrays and microdroplets also impact their ability to provide a broadly acceptable molecular diagnostic solution. As a result, the molecular diagnostic tests adopted by clinical laboratories have generally been relatively simple or have required specialized machines to perform. Diagnostic approaches that require measuring large numbers of genetic markers are generally not available or are available only from a diagnostic laboratory that specializes in the particular test.

Researchers, clinicians and commercial users need more robust systems that deliver increased throughput and simpler workflows with decreased costs.

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The Fluidigm Solution

Our proprietary microfluidic systems are designed to significantly simplify experimental workflow, increase throughput, reduce costs, provide excellent data quality and, in many instances, enable genetic analysis that was previously impractical. Our microfluidic systems empower researchers and commercial customers to rapidly perform significantly more experiments or prepare significantly more samples all at one time and in nanoliter volumes with a combination of speed and accuracy that we believe cannot be achieved with other systems. Our systems deliver these advantages through the integration of sophisticated nanoliter fluid handling in an easy-to-use format that is compatible with most existing laboratory workflows and chemistries. Our systems are used in existing and emerging life science research and Ag-Bio markets, and we believe there are significant growth opportunities in additional markets. A significant portion of our research and development efforts are currently focused on enabling more research in the field of single-cell genomics or driving potential applications of our technology in molecular diagnostics. We expect such development focus to continue.

We believe that our microfluidic systems have a number of compelling advantages over microplate systems and other mid-multiplex platforms including:

Data Quality. Our microfluidic systems provide exceptionally high quality data. In genotyping, our systems achieve greater than 99% call rate and call accuracy. For gene expression, our systems achieve six orders of magnitude of dynamic range with inter- and intra-chip reproducibility at correlation coefficients greater than 0.99, even when analyzing just a single cell.

Improved Throughput. Our BioMark HD system can generate over 46,000 genotyping data points per day and high throughput configurations of our system can generate over 110,000 data points per day, with a time to first result measured in hours. Some competing systems may offer comparable data points per day, but may take longer for first results. Other systems offer comparable time to first result, but produce fewer data points per day, and often with lower data quality. Our improved throughput reduces the time and cost associated with complex experiments and expands the number and range of experiments that may be conducted.

Ease of Use. Loading our 96.96 Dynamic Array chip requires 192 pipetting steps as compared to 18,432 steps required to load the number of 384 well microplates required for the same experiment. Difficulties encountered with some competing systems include manual sample loading and chip alignment that often results in lower throughput. We believe our microfluidic systems efficient workflow reduces time, cost and potential for error.

Flexibility. Our chips are built on input frames that are compatible with most commonly used laboratory systems, including existing robotic pipetting systems, bar code readers, plate handling systems and other equipment. Our chips are also designed to work with our own chemistries or with standard chemistries. In addition, our chips give researchers the flexibility to develop and load their own assays, unlike some competing products that can be used only to analyze specific genes or that are supplied pre-configured with fixed content.

Nanoliter Precision. Our microfluidic systems allow users to dispense samples and reagents in microliter volumes which are automatically partitioned, combined or mixed in nanoliter and sub-nanoliter volumes. In addition to cost and workflow benefits, this capability makes it practical for users to conduct certain high sensitivity, low volume techniques, such as digital PCR and single-cell analysis.

Cost-Effectiveness. We believe our high throughput systems offer a compelling cost benefit for high volume users. Our systems consume reagents in nanoliter volumes and have the ability to conduct thousands of parallel experiments on one chip. When used in conjunction with our SNPtype and DELTAgene reagents, up-front experimental costs are also reduced.

We provide complete microfluidic systems consisting of instruments and consumables, including chips, assays and other reagents. Our systems are easily incorporated into our customers laboratory environments and

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analysis workflow. For example, our chips are the same size and shape as standard 384 well microplates and other chip consumables, which facilitate the loading and handling of our chips by standard laboratory equipment. Each of our chips includes an elastomeric, or rubber-like, core that contains an extensive network of microfluidic components that deliver samples and reagents to thousands of nanoliter volume chambers where individual assays are performed. Our primary product offerings are summarized in the table below:

Product	Product Description	Applications
Instruments		
BioMark HD System	Real-time PCR instrument, bundled analysis software and chip loading platforms	SNP Genotyping, Digital PCR and Gene Expression, including Single-Cell Analysis
EP1 System	End-point PCR instrument, bundled analysis software and chip loading platforms	SNP Genotyping and Digital PCR
Access Array System	Sample preparation system for targeted resequencing that facilitates parallel amplification of 48 unique samples	Targeted Resequencing with Next Generation DNA Sequencing
Consumables		
Dynamic Array Chips	Microfluidic chip based on matrix architecture, allowing users to generate up to 9,216 real-time qPCR reactions simultaneously	Real-time qPCR, SNP Genotyping and Gene Expression, including Single-Cell Analysis
Digital Array Chips	Microfluidic chip based on partitioning architecture, allowing users to divide each of up to 48 separate samples into 770 smaller samples	Digital PCR, Gene Expression, Copy Number Variation and Mutation Detection
Access Array Chips	Microfluidic chip that facilitates parallel amplification, barcoding and tagging of 48 unique samples	Targeted Resequencing with Next Generation DNA Sequencing
DELTAgene and SNPtype Reagent Kits	Custom designed assays for specific nucleic acid regions of interest	Targeted Resequencing with Next Generation DNA Sequencing, SNP Genotyping and Gene Expression, including Single-Cell Analysis
Access Array Target-Specific Primers	Allows for fast, simple and inexpensive preparation of up to 480 amplicons per sample at a time	Targeted Resequencing with Next Generation DNA Sequencing

Current Commercial Applications

We believe our microfluidic systems offer distinct advantages for mid-multiplex analysis in each of our target markets:

Life Science Research

Gene Expression and Genotyping. Our systems provide researchers a flexible and easy to use tool for generating high quality data. Competing technologies, such as pre-formatted arrays, bead arrays and microarrays,

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are limited and inflexible because they require nucleic acid sequences on the device to be pre-specified when the chip or other consumable is manufactured. In contrast, our microfluidic systems allow researchers to utilize and easily tailor their assays to meet their experimental needs, which can shorten the analytical cycle for a given study to hours instead of weeks. We believe our systems also offer meaningful cost savings because they operate on nanoliter volumes of reagents and samples, which are between 0.5% and 1.0% of the amount required by conventional microplate systems.

For example, a consortium consisting of a major research university, a fertility clinic and a regenerative medicine and research group has utilized our systems to conduct research in in-vitro fertilization. By performing individual expression profile analyses, this group has discovered a set of factors implicated in the survival and maturation of human eggs, leading to improved success in fertility clinics.

Single-Cell Genomics. The integrated workflow and precision of our systems enable researchers to perform gene expression analysis on single cells on a scale that is impractical with conventional systems. Information gathered on cell activities has traditionally been obtained from populations of cells due to technological limitations on the ability to examine each individual cell. Our systems are able to precisely divide the limited amount of sample material extractable from a single cell into a multitude of divisions, and then accurately assay each such minute division. The high throughput of our systems allows researchers to analyze thousands of cells in this manner. For example, our BioMark HD system can deliver over 46,000 single cell data points in one day and high throughput configurations of our system can generate over 110,000 data points per day. Providing the combination of high throughput and data quality necessary for single-cell analysis presents significant challenges that we believe most conventional systems are unable to address in a practical manner. Our technology excels in offering a unique combination of these attributes for single-cell genomic researchers.

For example, our BioMark system has been used to help identify specific signatures of cancer stem cells at the single cell level. Researchers believe that certain cancer stem cells are precursors to certain tumors and are often manifested well in advance of other tumor markers. By detecting and identifying such cells, researchers believe they can diagnose and treat cancer at a much earlier stage than with conventional methods. In addition, our BioMark system has been used to identify signatures of induced pluripotent stem, or iPS, cells. These iPS cells may have multiple applications in life science research and therapeutics. Similarly, our BioMark system has also been used to identify signatures of immune system cells, both pre- and post- exposure to antigens, to gain insight into improved vaccines and disease treatments. As of December 31, 2011, over 80 of our BioMark systems were being used to perform single-cell analysis.

Sample Preparation for Targeted Resequencing with Next Generation DNA Sequencing. To efficiently use next generation sequencers to perform validation or other studies, researchers need to be able to prepare and tag samples from tens or hundreds of individuals prior to the samples being processed by the sequencers. Using conventional methods, this preparation and tagging must be done separately for each individual sample being processed, a laborious process that could take several days or more for a typical validation study. The streamlined workflow and flexibility of our Access Array system addresses this critical workflow bottleneck by allowing samples from up to 48 individuals to be prepared and tagged in approximately four hours.

For example, a leading cancer research institute has utilized our Access Array system in conjunction with its next generation DNA sequencing platform to analyze key oncology genes across large cohorts of cancer samples. We believe such studies will advance the understanding of cancer etiology and potentially lead to the development of improved cancer treatments.

Digital PCR. We were the first to introduce and successfully commercialize a digital PCR system. Our BioMark HD and EP1 systems can be used for digital PCR, a process in which samples are partitioned into minute reaction volumes containing individual DNA strands to enable digital counting for more accurate DNA quantification. It is not practical to perform digital PCR using conventional microplate systems because they lack precision, such as in pipetting nanoliter volumes. With our systems, digital PCR has been used for a number of

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different applications, including absolute quantification, determination of genomic copy number variation and detection of rare mutations. For example, pharmaceutical and biotechnology companies are taking advantage of the increased sensitivity enabled by our digital PCR technology to detect genetic mutations that are linked to drug efficacy and monitor cancer remission.

Agricultural Biotechnology

Ag-Bio customers require systems that can quickly and accurately analyze a large number of samples, such as tissue from livestock populations or seeds from a production lot, in a cost-efficient manner. The streamlined workflow of our systems allows customers to genotype a set of samples in approximately three hours as opposed to a day or more, which is the time required to prepare and run a set of samples on bead array systems. In addition, the call rate for our systems is much higher than for pre-formatted arrays or mass spectrometry, and our products offer significant cost advantages over competing systems.

For example, our BioMark system is being used to help create disease resistant strains of staple food crops for developing nations. Recently, certain genetic indicators have been identified that quickly and accurately fingerprint crops. By systematically analyzing over 300 specific genetic markers, the BioMark system is helping our customer produce and deliver seeds that will grow into plants more likely to survive, leading to improved yields. This success has led to increased adoption of the BioMark system, which is now used to selectively breed other desirable food qualities and drive agricultural efficiency and natural resource conservation.

Potential Future Applications

The inherent design flexibility of our core technology allows us to build microfluidic systems that can provide significant benefits in a wide range of fields and industries. We believe these features could lead to a number of different commercial applications including:

Molecular Diagnostics. Life science research is revealing additional diseases and conditions that can be diagnosed, evaluated and monitored by measuring panels of gene expression levels, SNPs, proteins or other biomarkers. Validating these research findings and translating them into clinically available tests often requires life science automation systems that are able to measure multiple biomarkers efficiently in a large number of patient samples. Our existing microfluidic systems are able to measure certain nucleic acid biomarkers that are commonly used in these tests, and in the future, we expect to develop additional systems to measure other relevant biomarkers.

We believe that the high-throughput, flexibility and simplified workflow of our microfluidic systems could make them an attractive solution for validating and commercializing a wide range of molecular diagnostic tests being developed by researchers. Our microfluidic systems have not been cleared or approved by the U.S. Food and Drug Administration, or FDA, for use in any molecular diagnostic tests and we cannot currently market them for the purpose of performing molecular diagnostic tests.

Other Applications. We believe that the inherent design flexibility of our core microfluidic technology allows us to perform sophisticated biochemical processes relevant to a wide range of fields and industries. We are developing our microfluidic technology for additional applications, including:

Single-Cell Capture and Processing. Researchers have increasingly focused on the study of single cells to better understand complex biological processes. For example, our co-founder, Dr. Stephen Quake, has used a prototype of our cell culture microfluidic chip to perform single-cell studies of cell signaling, and published these results in the journal Nature. We plan to commercially release a new system in the second half of 2012, which applies our technology to, among other things, improve single-cell analytic workflow for expression analysis.

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Protein Assays. While the analysis of mRNA and DNA gives insight into the activity of biological systems, most biological activity in cells is carried out by proteins. We have developed a chip that allows quantitation of 18 proteins within 48 samples simultaneously. We believe that the sensitivity and specificity of this chip will be highly valuable to the life science research industry. In addition, we have demonstrated PCR-based protein quantification using commercially available reagents on our BioMark system. Although we have no immediate plans to commercialize the architectures, we believe protein assays could have an important impact on life science research.

Sample Preparation for Next Generation DNA Sequencing. In addition to the Access Array system, we have demonstrated a general architecture with the ability to use bead based purification steps in-chip, allowing sequential reactions with purification steps in between. We plan to commercially release a new system in 2013, which applies our technology to, among other things, improve single-cell analytic workflow for next generation DNA sequencing.

Our microfluidic systems address the needs of researchers and clinicians who perform mid-multiplex experimentation in the areas of genetics, Ag-Bio and molecular diagnostics. In particular, for validation studies or projects of a similar scale, our microfluidic systems substantially reduce cost, simplify workflow and increase throughput as compared to conventional microplate systems. Nevertheless, researchers may be slow to adopt our microfluidic systems as they are based on technology that, compared to conventional technology, is new and less established in the industry. Moreover, many of the existing laboratories have already made substantial capital investments in their existing systems and may be hesitant to abandon that investment. While we believe our systems provide significant cost savings, the initial price of our instruments and the price of our chips are higher than conventional systems and standard 384 well microplates. Our microfluidic systems are less well suited for smaller scale research initiatives where complexity and workflow issues may be less pressing and conventional systems may be more economical. In addition, for very large-scale association or survey projects, researchers may choose to use microarrays because of the ability of those products to measure thousands of genetic markers with a single device. As life science research continues to evolve and is commercialized, we believe that there will be increasing demand for life science automation solutions that enable experimentation on the scale supported by our microfluidic systems.

Products

We actively sell three microfluidic systems, our BioMark HD, EP1 and Access Array systems. These systems are based on one or more chips designed for particular applications and include specialized reagents, instrumentation and software. All of our systems include chip controllers that control the activation of valves and loading of reagents onto the chip. Each chip controller comes with software to control chip and instrument operations for particular applications. The BioMark HD system includes a real-time PCR machine that comprises a fast thermal cycler for PCR and a fluorescence reader that can detect the results of reactions over time. The EP1 system includes a stand-alone fast thermal cycler and an end-point fluorescence reader. The EP1 thermal cycler supports fast PCR enabling the performance of high-throughput SNP genotyping. The BioMark HD and EP1 systems both include software to analyze, annotate and archive the data produced by the reader. The Access Array system includes a stand-alone thermal cycler and two chip controllers. We provide an extensive set of protocols and application notes with all of our systems to support specific scientific applications. All of our systems are designed to be compatible with standard laboratory automation equipment.

The BioMark HD System

Our BioMark HD system performs high-throughput gene expression analysis, single-cell analysis, SNP genotyping and digital PCR using Fluidigm DELTAgene and SNPtype assays and other chemistries, such as TaqMan or EvaGreen.

Fluidigm Dynamic Array Chips. Our Fluidigm 96.96 Dynamic Array chip is based on a matrix architecture and is capable of individually assaying 96 samples against 96 reagents, generating 9,216 reactions on a single chip. Our Fluidigm 48.48 Dynamic Array chip is based on the same architecture and is capable of individually

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assaying 48 samples against 48 reagents, generating 2,304 reactions. One version of each chip is optimized to perform gene expression analysis and another is optimized for genotyping. All assays are performed in volumes of 10 nanoliters or less. In 2011, we introduced our Fluidigm 192.24 Dynamic Array chip, which is capable of assaying 192 samples against 24 reagents and is particularly useful for genotyping applications that require many samples to be examined simultaneously. When used in conjunction with our BioMark HD system, our Fluidigm 192.24 Dynamic Array chip 192.24 chip provides remarkably high throughput for genotyping, allowing a researcher to generate up to 4,608 data points in one hour.

Fluidigm Digital Array Chips. Our Fluidigm 48.770 Digital Array chip is based on partitioning architecture that divides each of up to 48 separate samples into 770 microscopic samples and then performs a PCR or other assay for each divided sample in one nanoliter or smaller volume. Our 12.765 Digital Array chip is based on the same architecture and divides up to 12 samples into 765 parts. These chips can be used for digital PCR applications, such as rare mutation detection or copy number variation analysis.

BioMark HD Instrumentation and Software. Our chip controllers for the BioMark HD system fully automate the setup of Dynamic Array and Digital Array chips for real-time qPCR-based experiments and include software for implementing and tracking experiments. Our BioMark HD reader controls the PCR process and detects the fluorescent signals generated using a white light source, emission and excitation filters, precision lenses, a fast thermal cycler and a digital camera. We also offer various software packages that provide data analysis following data collection. Our analysis software shows data as a color-coded map of every position on the chip, such as for amplification curves and as numeric tabular data.

Fluidigm DELTAgene and SNPtype Assays. In the first half of 2011, we launched our DELTAgene and SNPtype assay products for gene expression and genotyping, respectively. These products provide optimized assays, content and services to users of our BioMark systems. They are designed to maintain the high performance standards of our BioMark systems at a substantially lower cost as compared to TaqMan-based chemistries. As a result, we are able to offer our customers an integrated genetic analysis solution that enhances the performance and efficiency of our instruments.

The EP1 System

The EP1 system performs SNP genotyping and end-point digital PCR using Fluidigm DELTAgene and SNPtype assays and other chemistries, such as TaqMan or EvaGreen. Our EP1 system uses the same Dynamic Array and Digital Array chips that are used by our BioMark HD system. Because of its high throughput and focus on genotyping, the EP1 system is a preferred choice by our Ag-Bio customers for field implementation.

EP1 Instrumentation and Software. The chip controllers for the EP1 system fully automate the setup of chips for end-point SNP genotyping and digital PCR experiments, and include software for implementing and tracking experiments. Our EP1 reader detects fluorescent signals generated in our chips using a light source, emission and excitation filters, precision lenses and a digital camera. Our FC1 cycler performs fast thermal cycling for chips and enables up to 12 Dynamic Array chips to be run per day. We also offer various software packages that provide data analysis following data collection. Our analysis software shows data as color-coded map of every position on the chip, cluster maps showing results for every assay, and as numeric tabular data.

Fluidigm SNPtype Assays. Our SNPtype assay service described above is also available to users of our EP1 instruments.

The Access Array System

The Access Array system enables automated sample preparation, barcoding and tagging of targeted resequencing libraries, at a cost of $10 per sample or less, for all currently marketed next generation DNA sequencers. The system is one of only a small number of high throughput target enrichment systems currently on the market that is capable of simultaneously processing multiple samples. The Access Array system can be used in conjunction with our BioMark HD system to provide real-time monitoring of amplification steps.

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Fluidigm Access Array Chips. Our Fluidigm 48.48 Access Array chip is based on an architecture similar to that of the Dynamic Array chip, but is designed to enable recovery of reaction products from the chip. This chip combines up to 48 samples with 48 primer sets prior to PCR amplification. This is accomplished with only 96 pipetting steps as compared to approximately 7,000 pipetting steps that would be required by conventional systems. After amplification, all 48 PCR products for each sample are recovered in a pool. When PCR primers are designed to include DNA tags for specific sequencers and DNA barcodes for each sample, samples from the Access Array chip can be loaded directly into the sequencer. The DNA barcodes can then be used to identify products from each sample from the sequence data. In addition, we have shown that we have been able to combine up to ten unique primer pairs per primer set, allowing up to 480 primers per chip.

Access Array Instrumentation. The Access Array system is comprised of two chip controllers and a single stand-alone thermal cycler. This system can load Access Array chips, amplify and tag the regions of interest, and recover the sample for loading into a next generation DNA sequencer.

Access Array Primers, Barcode Libraries and Content Service. We provide optimized barcoding primers, or Access Array Barcode Libraries, for use with Roche, Life Technologies and Illumina sequencing platforms. When used with the 48.48 Access Array chip, the barcode library enables the user to pool products of different samples, perform amplification of all samples in parallel, and then sequence the pooled samples as a single sample. We also offer the Access Array Content Service to provide validated custom primer sets for users.

Technology

Our products are based on a tiered set of related proprietary technologies that we have either developed internally or licensed from third parties.

Multi-Layer Soft Lithography

Our chips are manufactured using a technology known as multi-layer soft lithography, or MSL. Using MSL technology, we are able to create valves, chambers, channels and other fluidic components on our chips at high density. We combine these components in complex arrangements that allow nanoliter quantities of fluids or drops to be precisely manipulated within the chip. Unlike most prior microfluidic technologies, our chips do not rely on electricity, magnetism or similar approaches to control fluid movement. Rather, they control fluid flow with valves. The most important components on our chips are our NanoFlex valves, which are created by the intersection of two channels on adjacent layers. When the valve is open, fluid is able to flow through the lower or flow channel. When the upper or control channel is pressurized, the material separating the two channels is deflected into the lower channel, closing the valve and stopping fluid flow. If pressure is removed from the control channel, the channels return to their original form, and the valve is again open. The elastomeric properties of microfluidic chip cores allow our NanoFlex valves to form a reliable seal and cycle through millions of openings and closings.

The elastomer we currently use for our commercial products is a form of silicone rubber known as polydimethylsiloxane, or PDMS, but we have researched other materials with different properties for specific purposes. PDMS is transparent, which allows the fluids and their contents to be easily monitored with a variety of existing optical technologies, such as bright field, phase contrast or fluorescence microscopy. The gas permeability of PDMS allows the reliable metering of fluids with near picoliter precision by eliminating the bubble problems encountered by most other microfluidic technologies: in essence, we are able to pump fluids into closed reaction chambers at sufficient pressure to drive any air out of the chamber directly through the chamber walls. This gas permeability also supports maintenance of cells in cell culture conditions. PDMS offers a favorable environment for many biochemical reactions, including PCR and cell culture.

We have developed commercial manufacturing processes to fabricate valves, channels, vias and chambers with dimensions in the ten to 100 micron range, at high density and with high yields. For research purposes, we have created devices with both substantially smaller and larger features. Though our manufacturing is based on

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standard semiconductor manufacturing technologies and techniques, we have also developed novel processes for mold fabrication that enable mass production of high density chips with nanoliter volume features. These processes are sufficiently robust that new microfluidic designs can often be built using existing fabrication techniques, allowing for rapid innovation of new chip designs without needing manufacturing process or equipment changes.

Microfluidic Chips

Our chips incorporate several different types of technology that together enable us to use MSL to rapidly design and deploy new microfluidic applications.

Microfluidic Components. The first level of our chip technology is a library of components that perform basic microfluidic functions. We have proven designs for numerous elements, such as pumps, mixers, separation columns, control logic and reaction chambers. These are readily integrated to create circuits capable of performing a wide range of biochemical reactions. Even when it is necessary to integrate multiple elements to perform a particularly complex reaction, the area taken up on a circuit for a single reaction is small compared to our typical overall chip core size of three centimeters by three centimeters. As a result, we are routinely able to develop chips that perform thousands of reactions per square centimeter.

Architectures. The second level of our chip technology comprises the architectures we have designed to exploit our ability to conduct thousands of reactions on a single chip. The first of these is the Dynamic Array, a matrix architecture that allows multiple different samples and multiple different reagents to be loaded onto a single chip and then combined so that there is an isolated reaction between each sample and each reagent. The primary advantage of this architecture is that each sample and reagent is only handled by a pipette once per chip rather than once per reaction, as is the case with conventional microplate-based technologies. For example, a single 96.96 Dynamic Array chip can perform a total of 9,216 unique reactions between 96 samples and 96 reagents with only 192 pipetting steps. With conventional microplate-based technologies, the same experiment would require about 18,432 pipetting steps and at least 24 conventional microplates. In addition, the shape of the array can be changed. For instance, our 192.24 Dynamic Array chip allows reactions between 192 samples and 24 assays. Our Sample Processor architecture allows us to bring similar benefits to reactions which require export of the reaction product and more complex (multi-step) reactions. For example, our Access Array chip automates sample preparation for targeted resequencing by amplifying 48 genetic regions on each of 48 samples and exporting each prepared sample. Our Digital Array architecture allows a sample to be split into hundreds to tens of thousands of sub-samples. Separate reactions can then be conducted on each of the smaller sub-samples. Our Cell Processor architecture automates cell seeding, culture, combinatorial dosing with multiple reagents, and export for further analysis.

Interface and Handling Frames. The third level of our chip technology involves the interaction of our chips with the actual laboratory environment. The core elastomeric block at the center of our chip is surrounded by specially designed frames that are able to deliver samples and reagents to the blocks. These frames are the same size as standard 384 well microplates and have sample and reagent input ports laid out in a standard 384 well microplate format. As a result, our chips can be loaded with standard laboratory pipetting robots and can be used with standard plate handling equipment. These frames also transmit the pressure and control signals from our instruments to the chip.

Technological Advances. Our 48.770 Digital Array chips have over 4,000 valves capable of more than 4,000 assays per square centimeter, a 181-fold increase in valve density and a 1,600-fold increase in assay capability as compared to the first prototype of our 1.48 chip sold in 2002. In our research and development laboratory, we have built and tested fully functional Digital Array chips capable of performing 200,000 assays, over five-fold more than our 48.770 Digital Array chip. We have also developed the capability to capture many single cells from a flow stream, as well as to conduct molecular biology protocols on each individual cell in parallel. We are applying this capability to integrate automated cell capture and specific target amplification.

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We have added capabilities to our chips in addition to increasing the density. In 2009, we elaborated our 48.48 chip architecture to enable the recovery of DNA samples from reaction chambers after PCR amplification. The elaborated chips are now sold as part of the Access Array system, which allows the high-throughput preparation of samples for next-generation DNA sequencing.

We also recently developed a second generation interface technology, which increases our number of chip control signals, or states, by nearly a factor of 10 (from 4 to 36). Since the number of chip states is approximately 2 raised to the power of the number of control signals, this represents a billion-fold increase in the number of states a chip may be set to; this advance means that the complexity of reactions that our chips may run is no longer meaningfully limited by the number of control lines. This architecture was implemented on commercial products in 2011.

Software and Instrumentation

We have developed instrumentation technology to load samples and reagents onto our chips and to control and monitor reactions within our chips. Our line of chip controllers consists of commercial pneumatic components and both custom and commercial electronics. They apply precise control of multiple pressures to move fluid and control valve states in an microfluidic chip. Our BioMark HD system consists of a custom fast thermal cycler packaged with a sophisticated fluorescence imaging system. Our FC1 cycler is a custom thermal cycler capable of very rapid cycling: 45 cycles in 30 minutes. Our EP1 instrument is a fluorescence reader designed for endpoint imaging, suitable for genotyping and digital PCR applications. All of these instruments are designed to be easily introduced into standard automated lab environments.

We have developed specialized software to manage and analyze the unusually large amounts of data produced by our systems. Our BioMark HD system s gene expression analysis software automatically measures individual real-time qPCR reactions from fluorescent images and generates amplification threshold crossing values allowing researchers to readily perform complete normalized comparative gene expression analysis across large numbers of samples and assays. Similarly, our SNP Genotyping Analysis software automatically clusters fluorescent intensities from individual genotype reactions and makes genotype calls across individual and multiple chip runs. The Digital PCR Analysis software automatically calculates absolute copy number and copy number ratios from digital PCR experiments. Our Melting Curve Analysis software supports genotyping from data collected on the BioMark HD reader.

Protocols and Assays Design

We provide protocols to guide our customers in the use our products with commonly available molecular biology reagents for the analysis of their specific sample types. The set of protocols we offer are regularly expanded. For gene expression, we currently provide a protocol for TaqMan real-time reagents for general gene expression analysis. We also offer a protocol specifically for single-cell analysis. In early 2010 we released a protocol for EvaGreen, a DNA binding dye for gene expression measurements with excellent data quality and a very low cost per assay. We also released protocols for the use of our microfluidic systems with Thermo-Fisher Solaris assays. PCR assay reagents need to be specific to The gene targets of interest. Since our systems analyze many gene targets at once, the process of designing a set of assays may delay the implementation experiments or require the use of expensive pre-designed assays. To address this issue we have developed a computational method for rapid-turn PCR assay design. This process allows us to provide customers with validated assays for their targets of interest. We have commercialized this service for our BioMark HD, EP1 and Access Array customers through the launch of our DELTAgene and SNPtype assays and our Access Array Target-Specific primers.

In the first quarter of 2011, we introduced our DELTAgene assay product, consisting of assay design and custom content delivery systems for gene expression, that allow customers to specify genes of interest and match them to region-specific primers and enables our existing systems to amplify specific genetic regions of interest. In the second quarter of 2011, we introduced a similar assay design and custom content delivery system for

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genotyping called SNPtype. We believe these assay design and content delivery systems represent an improvement over conventional pre-defined panels by allowing customization based on cellular pathways or biological areas of interest while lowering up-front costs of experiments. These offerings provide low-cost alternatives to chemistries such as TaqMan and allow customers to use chips in more flexible ways. By specifying genes or SNP sites of interest and matching them to region specific primers, customers using our existing systems are able to amplify specific genetic regions of interest at reduced cost without sacrificing data quality.

Sales and Marketing

We distribute our microfluidic systems through our direct sales force and support organizations located in North America, Europe and Asia-Pacific, and through distributors or sales agents in several European, Latin American, Middle Eastern and Asia-Pacific countries. Our domestic and international sales force informs our current and potential customers of current product offerings, new product introductions, technological advances in our microfluidic systems and workflows, and notable research being performed by our customers or ourselves. As our primary point of contact in the marketplace, our sales force focuses on delivering a consistent marketing message and high level of customer service, while also attempting to help us better understand our customer needs. As of December 31, 2011, we had 72 people employed in sales, sales and technical support and marketing, including 42 sales representatives and technical pre-sales specialists located in the field. We intend to significantly expand our sales, support and marketing efforts in the future.

Our sales and marketing efforts are targeted at laboratory directors and principal investigators at leading companies and institutions who need reliable life science automation solutions for their business or commercial purposes. We seek to increase awareness of our products among our target customers through regular contact, participation in tradeshows, on customer site seminars, academic conferences and dedicated company gatherings attended by prominent users and prospective customers from various institutions.

Our systems are relatively new to the market place and require a capital investment. As a result our sales process often involves numerous interactions and demonstrations with multiple people within an organization. Some potential customers conduct in-depth evaluations of the system including running experiments on our system and competing systems. In addition, in most countries, sales to academic or governmental institutions require participation in a tender process involving preparation of extensive documentation and a lengthy review process. As a result of these factors and the budget cycles of our customers, our sales cycle, the time from initial contact with a customer to our receipt of a purchase order, can often be 12 months or longer.

Commercial Alliances

Co-Marketing Agreements for Next Generation Sequencing

We have entered into an agreement to co-market our Access Array system with 454 Life Sciences, a division of F. Hoffman-La Roche Ltd., a manufacturer of leading next generation DNA sequencing platforms. Per our agreement, we may bundle our Access Array sample preparation system with our co-marketer s next generation DNA sequencing technologies. This agreement enables us to, among other things, engage in co-operative marketing and messaging, perform selective specialization or utilization of our co-marketer s channel for promotional or sales activity, and educate our direct and indirect distribution channels, in each case without any minimum sales, volume or other financial obligations. The agreement does not preclude us from engaging in other activities of similar or related interest with other participants in the sequencing technology market and may be terminated by either party with notice. We have entered into a similar co-marketing agreement with another manufacturer of next generation DNA sequencing platforms. This second agreement is in its early stages, does not contain any minimum performance obligations of the parties and may be terminated at anytime by either party with notice.

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Non-invasive Prenatal Diagnostics Collaboration

We entered into a set of related agreements with Novartis V&D, in May 2010 which were subsequently amended in March 2011. Under these agreements, our capabilities in digital PCR are being developed for potential in-vitro diagnostics applications, with an initial focus on the development of an NIPD test for fetal aneuploidies. These agreements provide Novartis V&D with an option to exclusively license our technology in the primary field of non-invasive testing for fetal aneuploidies and the secondary field of non-invasive testing of genetic abnormality, disease or condition in a fetus or in a pregnant woman (other than as tested in the ;height:12.75pt;padding:0pt;">

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463,665

$

480,443

See the accompanying notes to consolidated financial statements

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Douglas Dynamics, Inc.

Consolidated Statements of Operations and Comprehensive Income

(In thousands, except share and per share data)

	Three Months Ended	
	March 31, 2015 (unaudited)	March 31, 2014
Net sales	$ 53,890	$ 36,396
Cost of sales	37,453	22,271
Gross profit	16,437	14,125
Selling, general, and administrative expense	11,417	8,337
Intangibles amortization	1,903	1,455
Income from operations	3,117	4,333
Interest expense, net	(2,454)	(1,972)
Other expense, net	(60)	(18)
Income before taxes	603	2,343
Income tax expense	220	768
Net income	$ 383	$ 1,575
Less net income attributable to participating securities	5	23
Net income attributable to common shareholders	$ 378	$ 1,552
Weighted average number of common shares outstanding:		
Basic	22,247,802	22,103,167
Diluted	22,269,022	22,122,669
Earnings per common share:		
Basic	$ 0.02	$ 0.07
Diluted	$ 0.01	$ 0.07
Cash dividends declared and paid per share	$ 0.22	$ 0.22
Comprehensive income (loss)	$ (271)	$ 1,588

See the accompanying notes to consolidated financial statements.

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Douglas Dynamics, Inc.

Consolidated Statements of Cash Flows

(in thousands)

	Three Months Ended March 31, 2015 (unaudited)	March 31, 2014
Operating activities		
Net income	$ 383	$ 1,575
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	3,055	2,279
Inventory step up of acquired business included in cost of sales	1,956	-
Amortization of deferred financing costs and debt discount	167	190
Stock-based compensation	1,124	1,022
Provision for losses on accounts receivable	58	76
Deferred income taxes	2,228	1,302
Earnout liability	232	136
Changes in operating assets and liabilities, net of acquisitions:		

Accounts receivable	36,953	28,777
Inventories	(24,661)	(18,902)
Prepaid and other assets and refundable income taxes paid	(3,809)	(1,318)
Accounts payable	499	(2,761)
Accrued expenses and other current liabilities	(6,002)	(1,931)
Benefit obligations and other long-term liabilities	(857)	(221)
Net cash provided by operating activities	11,326	10,224
Investing activities		
Capital expenditures	(1,254)	(1,290)
Acquisition of business	(7,931)	—
Net cash used in investing activities	(9,185)	(1,290)
Financing activities		
Shares withheld on restricted stock vesting paid for employees' taxes	(27)	(69)
Dividends paid	(5,034)	(4,893)
Net repayments of revolver borrowings	-	(13,000)
Repayment of long-term debt	(475)	(288)
Net cash used in financing activities	(5,536)	(18,250)
Change in cash and cash equivalents	(3,395)	(9,316)
Cash and cash equivalents at beginning of period	24,195	19,864
Cash and cash equivalents at end of period	$ 20,800	$ 10,548

See the accompanying notes to consolidated financial statements.

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Douglas Dynamics, Inc.

Notes to Unaudited Consolidated Financial Statements

(in thousands except share and per share data)

1.Basis of presentation

The accompanying financial statements have been prepared in accordance with accounting principles generally accepted in the United States for interim financial information. Accordingly, they do not include all of the information and footnotes required by generally accepted accounting principles for fiscal year-end financial statements. In the opinion of management, all adjustments (consisting of normal recurring accruals) considered necessary for a fair presentation have been included. For further information, refer to the financial statements and related footnotes included in our 2014 Form 10-K (Commission File No. 001-34728) filed with the Securities and Exchange Commission on March 12, 2015.

We operate as a single business unit.

Certain reclassifications have been made to the prior period financial statements to conform to the 2015 presentation. Deferred compensation has been combined with other long-term liabilities on the Consolidated Balance Sheet. Deferred compensation has been combined with Benefit obligations and other long-term liabilities on the Consolidated Statements of Cash Flows.

Interim Consolidated Financial Information

The accompanying consolidated balance sheet as of March 31, 2015 and the consolidated statements of operations and comprehensive income for the three months ended March 31, 2015 and 2014 and cash flows for the three months ended March 31, 2015 and 2014 have been prepared by the Company and have not been audited.

The Company is a counterparty to an interest-rate swap agreement to hedge against the potential impact on earnings from increases in market interest rates. The Company entered into three interest rate swap agreements during the first quarter of 2015 with notional amounts of $45,000, $90,000 and $135,000 effective for the periods December 31, 2015 through March 29, 2018, March 29, 2018 through March 31, 2020 and March 31, 2020 through June 30, 2021,

respectively. Under the interest rate swap agreement, effective as of December 31, 2015 the Company will either receive or make payments on a monthly basis based on the differential between 6.105% and London Interbank Offered Rate ("LIBOR") plus 4.25% (with a LIBOR floor of (1.0%). Under the interest rate swap agreement, effective as of March 29, 2018 the Company will either receive or make payments on a monthly basis based on the differential between 6.916% and LIBOR plus 4.25% (with a LIBOR floor of (1.0%). Under the interest rate swap agreement effective as of March 31, 2020 the Company will either receive or make payments on a monthly basis based on the differential between 7.168% and LIBOR plus 4.25% (with a LIBOR floor of 1.0%). The negative fair value of the interest rate swap, net of tax, of ($802) at March 31, 2015 is included in "Accumulated other comprehensive loss" on the balance sheet. This fair value was determined using Level 2 inputs as defined in Accounting Standards Codification Topic ("ASC") 820. Additionally, other comprehensive income includes the net income of the Company plus the Company's adjustments for its defined benefit retirement plans based on the measurement date as of the Company's year-end. For further disclosure, refer to Note 14 to the Unaudited Consolidated Financial Statements.

The Company's business is seasonal and consequently its results of operations and financial condition vary from quarter-to-quarter. Because of this seasonality, the Company's results of operations for any quarter may not be indicative of results of operations that may be achieved for a subsequent quarter or the full year, and may not be similar to results of operations experienced in prior years. The Company attempts to manage the seasonal impact of snowfall on its revenues in part through its pre-season sales program. This pre-season sales program encourages the Company's distributors to re-stock their inventory during the second and third quarters in anticipation of the peak fourth quarter retail sales period by offering favorable pre-season pricing and payment deferral until the fourth quarter. Thus, the Company tends to generate its greatest volume of sales during the second and third quarters. By contrast, its revenue and operating results tend to be lowest during the first

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quarter, as management believes the Company's end-users prefer to wait until the beginning of a snow season to purchase new equipment and as the Company's distributors sell off inventory and wait for the pre-season sales incentive period to re-stock inventory. Fourth quarter sales vary from year-to-year as they are primarily driven by the level, timing and location of snowfall during the quarter. This is because most of the Company's fourth quarter sales and shipments consist of re-orders by distributors seeking to restock inventory to meet immediate customer needs caused by snowfall during the winter months.

2.Fair Value

Fair value is the price at which an asset could be exchanged in a current transaction between knowledgeable, willing parties. A liability's fair value is defined as the amount that would be paid to transfer the liability to a new obligor, not the amount that would be paid to settle the liability with the creditor. Fair value measurements are categorized into one of three levels based on the lowest level of significant input used: Level 1 (unadjusted quoted prices in active markets); Level 2 (observable market inputs available at the measurement date, other than quoted prices included in Level 1); and Level 3 (unobservable inputs that cannot be corroborated by observable market data).

The following table presents financial assets and liabilities measured at fair value on a recurring basis and discloses the fair value of long-term debt:

	Fair Value at March 31, 2015	Fair Value at December 31, 2014
Assets:		
Other long-term assets (a)	$ 2,298	$ 1,725
Total Assets	$ 2,298	$ 1,725
Liabilities:		
Long term debt (b)	$ 188,162	$ 187,160
Earnout - TrynEx (c)	2,032	1,987
Earnout - Henderson (d)	635	600

Interest rate swaps (e)	1,293	-
Total Liabilities	$ 192,122	$ 189,747

(a) Included in other assets is the cash surrender value of insurance policies on various individuals that are associated with the Company. The carrying amounts of these insurance policies approximates their fair value.

(b) The fair value of the Company's long-term debt, including current maturities, is estimated using discounted cash flows based on the Company's current incremental borrowing rates for similar types of borrowing arrangements, which is a Level 2 input for all periods presented. Meanwhile, long-term debt is recorded at carrying amount, net of discount, as disclosed on the face of the balance sheet.

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(c) Included in accrued expenses and other current liabilities in the amount of $2,032 at March 31, 2015 is an obligation for a portion of the potential earn out incurred in conjunction with the acquisition of substantially all of the assets of TrynEx, Inc. (“TrynEx”). The carrying amount of the earn out approximates its fair value. Fair value is based upon Level 3 inputs of a monte carlo simulation analysis using key inputs of forecasted future sales and financial performance as well as a growth rate reduced by the market required rate of return. See reconciliation of liability included below:

	Three Months Ended March 31, 2015	Three Months Ended March 31, 2014
Beginning Balance	$ 1,987	$ 3,587
Additions	—	—
Adjustments to fair value	313	—
Payment to former owners	(268)	—
Ending balance	$ 2,032	$ 3,587

(d) Included in accrued expenses and other current liabilities and other long term liabilities in the amounts of $193 and $442, respectively, at March 31, 2015 is the fair value of an obligation for a portion of the potential earn out acquired in conjunction with the acquisition of Henderson Enterprise Group, Inc. (“Henderson”). Fair value is based upon Level 3 discounted cash flow analysis using key inputs of forecasted future sales as well as a growth rate reduced by the market required rate of return. See reconciliation of liability included below:

	Three Months Ended March 31, 2015
Beginning Balance	$ 600

Additions	—
Adjustments to fair value	96
Payment to former owners	(61)
Ending balance	$ 635

(e) Valuation models are calibrated to initial trade price. Subsequent valuations are based on observable inputs to the valuation model (e.g. interest rates and credit spreads). Model inputs are changed only when corroborated by market data. A credit risk adjustment is made on each swap using observable market credit spreads. Thus, inputs used to determine fair value of the interest rate swap are Level 2 inputs. Interest rate swaps of $88 and $1,205 are included in accrued expenses and other current liabilities and other long term liabilities, respectively.

3.Inventories

Inventories consist of the following:

	March 31, 2015	December 31, 2014
Finished goods and work-in-process	$ 59,776	$ 38,906
Raw material and supplies	11,177	9,342
	$ 70,953	$ 48,248

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4.Property, plant and equipment

Property, plant and equipment are summarized as follows:

	March 31, 2015	December 31, 2014
Land	$ 1,500	$ 1,500
Land improvements	2,292	2,292
Leasehold Improvements	499	499
Buildings	22,081	21,918
Machinery and equipment	31,675	31,780
Furniture and fixtures	10,195	10,070
Mobile equipment and other	2,076	1,999
Construction-in-process	2,695	1,930
Total property, plant and equipment	73,013	71,988
Less accumulated depreciation	(35,365)	(34,442)
Net property, plant and equipment	$ 37,648	$ 37,546

5.Long-Term Debt

Long-term debt is summarized below:

	March 31, 2015	December 31, 2014
Term Loan, net of debt discount of $1,832 and $1,900 at March 31, 2015 and December 31, 2014, respectively	$ 187,693	$ 188,100
Less current maturities	1,629	1,629
	$ 186,064	$ 186,471

The Company's senior credit facilities consist of a $190,000 term loan facility and a $100,000 revolving credit facility with a group of banks, of which $10,000 will be available in the form of letters of credit and $5,000 will be available for the issuance of short-term swing line loans. The agreement for the term loan (the "Term Loan Credit Agreement") provides for a senior secured term loan facility in the aggregate principal amount of $190,000 and generally bears interest (at the Company's election) at either (i) 3.25% per annum plus the greatest of (a) the Prime Rate (as defined in the Term Loan Credit Agreement) in effect on such day, (b) the weighted average of the rates on overnight Federal funds transactions with members of the Federal Reserve System arranged by Federal funds brokers plus 0.50% and (c) 1.00% plus the greater of (1) the LIBOR for a one month interest period multiplied by the Statutory Reserve Rate (as defined in the Term Loan Credit Agreement) and (2) 1.00% or (ii) 4.25% per annum plus the greater of (a) the LIBOR for the applicable interest period multiplied by the Statutory Reserve Rate and (b) 1.00%. The Term Loan Credit Agreement also allows the Company to request the establishment of one or more additional term loan commitments in an aggregate amount not in excess of $80,000 subject to specified terms and conditions, which amount may be further increased so long as the First Lien Debt Ratio (as defined in the Term Loan Credit Agreement) is not greater than 3.25 to 1.00.

The revolving credit facility (the "Revolving Credit Agreement") provides that the Company has the option to select whether borrowings will bear interest at either (i) a margin ranging from 1.50% to 2.00% per annum, depending on the utilization of the facility, plus the LIBOR for the applicable interest period multiplied by the Statutory Reserve Rate (as defined by the Revolving Credit Agreement) or (ii) a margin ranging from 0.50% 1.00% per annum, depending on the utilization of the facility, plus the greatest of (a) the Prime Rate (as defined

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in the Revolving Credit Agreement) in effect on such day, (b) the weighted average of the rates on overnight Federal funds transactions with members of the Federal Reserve System arranged by Federal funds brokers plus 0.50% and (c) the LIBOR for a one month interest period multiplied by the Statutory Reserve Rate plus 1%. The maturity date for the Revolving Credit Agreement is December 31, 2019, and the Company's term loan amortizes in nominal amounts quarterly with the balance payable on December 31, 2021.

The term loan was issued at a $1,900 discount which is being amortized over the term of the term loan.

At March 31, 2015, the Company had no outstanding borrowings on the Revolving Credit Agreement and remaining borrowing availability of $70,297.

The Company's senior credit facilities include certain negative and operating covenants, including restrictions on its ability to pay dividends, and other customary covenants, representations and warranties and events of default. The senior credit facilities entered into and recorded by the Company's subsidiaries significantly restrict its subsidiaries from paying dividends and otherwise transferring assets to Douglas Dynamics, Inc. The terms of the Revolving Credit Agreement specifically restrict subsidiaries from paying dividends if a minimum availability under the Revolving Credit Agreement facility is not maintained, and both senior credit facilities restrict subsidiaries from paying dividends above certain levels or at all if an event of default has occurred. These restrictions would affect the Company indirectly since the Company relies principally on distributions from its subsidiaries to have funds available for the payment of dividends. In addition, the Revolving Credit Agreement includes a requirement that, subject to certain exceptions, capital expenditures may not exceed $12,500 in any calendar year (plus the unused portion of permitted capital expenditures from the preceding year subject to a $12,500 cap and a separate one-time $15,000 capital expenditures to be used for the consolidation of facilities and costs associated with the acquiring and/or development and construction of one new manufacturing facility) and, if certain minimum availability under the Revolving Credit Agreement is not maintained, that the Company comply with a monthly minimum fixed charge coverage ratio test of 1.0:1.0. Compliance with the fixed charge coverage ratio test is subject to certain cure rights under the Revolving Credit Agreement. At March 31, 2015, the Company was in compliance with the respective covenants. The credit facilities are collateralized by substantially all assets of the Company.

In accordance with the senior credit facilities, the Company is required to make additional principal prepayments over the above scheduled payments under certain conditions. This includes, in the case of the term loan facility, 100% of the net cash proceeds of certain asset sales, certain insurance or condemnation events, certain debt issuances, and, within 150 days of the end of the fiscal year, 50% of excess cash flow, as defined, including a deduction for certain distributions (which percentage is reduced to 0% upon the achievement of certain leverage ratio thresholds), for any fiscal year. Excess cash flow is defined in the senior credit facilities as consolidated adjusted EBITDA (earnings before interest, taxes, depreciation and amortization) plus a working capital adjustment less the sum of repayments of debt and capital expenditures subject to certain adjustments, interest and taxes paid in cash, management fees and certain restricted payments (including dividends or distributions). Working capital adjustment is defined in the senior credit facilities as the change in working capital, defined as current assets excluding cash and cash equivalents less current liabilities excluding current portion of long term debt. As of March 31, 2015, the Company was not required to make an excess cash flow payment.

The Company entered into an interest rate hedge agreement on February 20, 2015 to reduce its exposure to interest rate volatility. The three interest rate swap agreements have notional amounts of $45,000, $90,000 and $135,000 effective for the periods December 31, 2015 through March 29, 2018, March 29, 2018 through March 31, 2020 and March 31, 2020 through June 30, 2021, respectively. The interest rate swaps' negative fair value at March 31, 2015 was $1,293, of which $88 and $1,205 are included in accrued expenses and other current liabilities and other long-term liabilities on the Consolidated Balance Sheet, respectively. The Company has counterparty credit risk resulting from the interest rate swap, which it monitors on an on-going basis. This risk lies with one global financial institution. Under the interest rate swap agreement, effective as of December 31, 2015, the Company will either receive or make payments on a monthly basis based on the differential between 6.105% and LIBOR plus 4.25% (with a LIBOR floor of 1.0%). Under the interest rate swap agreement, effective as of March 29, 2018, the Company will either receive or make payments on a monthly basis based on the differential between 6.916% and LIBOR plus 4.25% (with a LIBOR floor of 1.0%). Under the interest rate

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swap agreement, effective as of March 31, 2020, the Company will either receive or make payments on a monthly basis based on the differential between 7.168% and LIBOR plus 4.25% (with a LIBOR floor of 1.0%).

6.Accrued Expenses and Other Current Liabilities

Accrued expenses and other liabilities are summarized as follows:

	March 31, 2015	December 31, 2014
Payroll and related costs	$ 4,351	$ 3,860
Employee benefits	3,138	7,716
Accrued warranty	5,188	6,279
Amounts due to sellers	3,887	11,824
Other	4,115	3,991
	$ 20,679	$ 33,670

7.Warranty Liability

The Company accrues for estimated warranty costs as sales are recognized and periodically assesses the adequacy of its recorded warranty liability and adjusts the amount as necessary. The Company’s warranties generally provide, with

respect to its snow and ice control equipment, that all material and workmanship will be free from defect for a period of two years after the date of purchase by the end-user, and with respect to its parts and accessories purchased separately, that such parts and accessories will be free from defect for a period of one year after the date of purchase by the end-user. Certain snowplows only provide for a one year warranty. The Company determines the amount of the estimated warranty costs (and its corresponding warranty reserve) based on the Company's prior five years of warranty history utilizing a formula driven by historical warranty expense and applying management's judgment. The Company adjusts its historical warranty costs to take into account unique factors such as the introduction of new products into the marketplace that do not provide a historical warranty record to assess. The warranty reserve is included in Accrued Expenses and Other Current Liabilities in the accompanying consolidated balance sheets.

The following is a rollforward of the Company's warranty liability:

	Three Months Ended	
	March 31, 2015	March 31, 2014
Balance at the beginning of the period	$ 6,279	$ 3,808
Warranty provision	648	459
Claims paid/settlements	(1,739)	(1,337)
Balance at the end of the period	$ 5,188	$ 2,930

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8.Employee Retirement Plans

The components of net periodic pension cost consist of the following:

	Three months ended March 31, 2015	March 31, 2014
Component of net periodic pension cost:		
Service cost	$ 64	$ 54
Interest cost	372	374
Expected return on plan assets	(407)	(408)
Amortization of net loss	255	51
Net periodic pension cost	$ 284	$ 71

The Company estimates its total required minimum contributions to its pension plans in 2015 will be $1,126. Through March 31, 2015, the Company has made $226 of cash contributions to the pension plans versus $506 through the same period in 2014.

Components of net periodic other postretirement benefit cost (gain) consist of the following:

	Three Months Ended

	March 31, 2015	March 31, 2014
Component of periodic other postretirement benefit cost (gain):		
Service cost	$ 57	$ 40
Interest cost	64	53
Amortization of net gain	(17)	(100)
Net periodic other postretirement benefit cost (gain)	$ 104	$ (7)

9.Earnings per Share

Basic earnings per share of common stock is computed by dividing net income by the weighted average number of common shares outstanding during the period. Diluted earnings per share of common stock is computed by dividing net income by the weighted average number of common shares and common stock equivalents related to the assumed exercise of stock options, using the two-class method. Stock options for which the exercise price exceeds the average fair value have an anti-dilutive effect on earnings per share and are excluded from the calculation.

As restricted shares and restricted stock units both participate in dividends, in accordance with ASC 260, the Company has calculated earnings per share pursuant to the two-class method, which is an earnings

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allocation formula that determines earnings per share for common stock and participating securities according to dividends declared and participation rights in undistributed earnings. Under this method, all earnings (distributed and undistributed) are allocated to common shares and participating securities based on their respective rights to receive dividends.

	Three Months Ended	
	March 31, 2015	March 31, 2014
Basic earnings per common share		
Net income	$ 383	$ 1,575
Less income allocated to participating securities	5	23
Net income allocated to common shareholders	$ 378	$ 1,552
Weighted average common shares outstanding	22,247,802	22,103,167
	$ 0.02	$ 0.07
Earnings per common share assuming dilution		
Net income	$ 383	$ 1,575
Less income allocated to participating securities	5	23
Net income allocated to common shareholders	$ 378	$ 1,552
Weighted average common shares outstanding	22,247,802	22,103,167
Incremental shares applicable to stock based compensation	21,220	19,502
Weighted average common shares assuming dilution	22,269,022	22,122,669
	$ 0.01	$ 0.07

10.Employee Stock Plans

Amended and Restated 2004 Stock Incentive Plan

As of March 31, 2015, 37,240 shares of common stock are reserved for issuance upon the exercise of outstanding options under the Company's Amended and Restated 2004 Stock Incentive Plan (the "A&R 2004 Plan"). All outstanding options are fully vested. All options expire 10 years from the date of grant. No further awards are permitted to be issued under the A&R 2004 Plan.

There were no stock options exercised with respect to the Company's stock under the A&R 2004 Plan for the three months ended March 31, 2015 or March 31, 2014.

2010 Stock Incentive Plan

In May 2010, the Company's Board of Directors and stockholders adopted the 2010 Stock Incentive Plan (the "2010 Plan"). The Company's Board of Directors approved an amendment and restatement of the 2010 Plan on March 5, 2014, contingent on stockholder approval of the performance goals under the 2010 Plan, and the

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amendment and restatement became effective upon stockholder approval of the performance goals at the 2014 annual meeting of stockholders held on April 30, 2014. The 2010 Plan provides for the issuance of nonqualified stock options, incentive stock options, stock appreciation rights, restricted stock awards and restricted stock units ("RSUs"), any of which may be performance-based, and for incentive bonuses, which may be paid in cash or stock or a combination of both, to eligible employees, officers, non-employee directors and other service providers to the Company and its subsidiaries. A maximum of 2,130,000 shares of common stock may be issued pursuant to all awards under the 2010 Plan.

Restricted Stock Awards

A summary of restricted stock activity for the three months ended March 31, 2015 is as follows:

	Shares	Weighted Average Grant Date Fair value	Weighted Average Remaining Contractual Term
Unvested at December 31, 2014	85,021	$ 13.02	0.51 years
Granted	-	-	-
Vested	28,701	$ 14.68	
Cancelled and forfeited	—	—	
Unvested at March 31, 2015	56,320	$ 12.17	0.25 years
Expected to vest in the future at March 31, 2015	54,292	$ 12.17	0.25 years

The fair value of the Company's restricted stock awards is the closing stock price on the date of grant. The Company recognized $165 of compensation expense related to restricted stock awards granted for the three months ended March 31, 2015. The Company recognized $215 of compensation expense related to restricted stock awards granted for the three months ended March 31, 2014. The unrecognized compensation expense calculated under the fair value method for shares expected to vest as of March 31, 2015 was approximately $194 and is expected to be recognized over a weighted average period of 0.25 years.

Performance Share Unit Awards

The Company granted performance share units as performance based awards under the 2010 Plan in the first quarter of 2015 that are subject to performance conditions. Upon meeting the prescribed performance conditions, in the first quarter of the year subsequent to grant, employees will be issued RSUs a portion of which will be subject to vesting over the two years following the end of the performance period. In accordance with ASC 718, such awards are being expensed over the vesting period from the date of grant through the requisite service period, based upon the most probable outcome. The fair value per share of the awards is the closing stock price on the date of grant, which was $22.63. The Company recognized $127 of compensation expense related to the awards in the three months ended March 31, 2015. The Company recognized $49 of compensation expense related to the awards in the three months ended March 31, 2014. The unrecognized compensation expense calculated under the fair value method for shares that were, as of March 31, 2015, expected to be earned through the requisite service period was approximately $1,327 and is expected to be recognized through 2018.

Restricted Stock Unit Awards

RSUs are granted to both non-employee directors and management. RSUs carry dividend equivalent rights but do not carry voting rights. Each RSU represents the right to receive one share of the Company’s common stock and is subject to time based vesting restrictions. Participants are not required to pay any consideration to the Company at either the time of grant of a RSU or upon vesting.

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RSUs issued to management include a retirement provision under which members of management who either (1) are age 65 or older or (2) have at least ten years of service and are at least age 55 will continue to vest in unvested RSUs upon retirement. As the retirement provision does not qualify as a substantive service condition, the Company incurred $303 and $278 in additional expense in the first quarter of 2015 and 2014, respectively, for employees who meet the thresholds of the retirement provision. In 2013, the Company's nominating and governance committee approved a retirement provision for the RSUs issued to non-employee directors that accelerates the vesting of such RSUs upon retirement. Such awards are fully expensed immediately upon grant in accordance with ASC 718, as the retirement provision eliminates substantive service conditions associated with the awards.

A summary of RSU activity for the three months ended March 31, 2015 is as follows:

	Shares	Weighted Average Grant Date Fair value	Weighted Average Remaining Contractual Term
Unvested at December 31, 2014	81,623	$ 15.05	1.09 years
Granted	116,141	$ 18.72	0.74 years
Vested	(103,157)	$ 17.22	
Cancelled and forfeited	(1,882)	$ 15.82	
Unvested at March 31, 2015	92,725	$ 17.24	1.14 years
Expected to vest in the future at March 31, 2015	89,387	$ 17.24	1.14 years

The Company recognized $832 of compensation expense related to the RSU awards in the three months ended March 31, 2015. The Company recognized $758 of compensation expense related to the RSU awards in the three months ended March 31, 2014. The unrecognized compensation expense, net of expected forfeitures, calculated under the fair value method for shares that were, as of March 31, 2015, expected to be earned through the requisite service period was approximately $1,196 and is expected to be recognized through 2018.

Vested director RSUs are ‘‘settled’’ by the delivery to the participant or a designated brokerage firm of one share of common stock per vested RSU as soon as reasonably practicable following a termination of service of the participant that constitutes a separation from service, and in all events no later than the end of the calendar year in which such termination of service occurs or, if later, two and one-half months after such termination of service. Vested management RSUs are “settled” by the delivery to the participant or a designated brokerage firm of one share of common stock per vested RSU as soon as reasonably practicable following vesting.

11.Commitments and Contingencies

In the ordinary course of business, the Company is engaged in various litigation including product liability and intellectual property disputes. However, the Company does not believe that any pending litigation will have a material adverse effect on its consolidated financial position. In addition, the Company is not currently a party to any environmental-related claims or legal matters.

12.Income Taxes

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. The largest item affecting deferred taxes is the difference between book and tax amortization of goodwill and other intangibles amortization. The Company’s effective tax rate was 36.5% and 32.8% for the three months ended March 31, 2015

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and 2014, respectively. The effective tax rate for the three months ended March 31, 2015 is higher than the corresponding period in 2014 due to the Company generating additional state nexus with the acquisition of Henderson.

13. Acquisition

On December 31, 2014, the Company acquired by merger all of the outstanding common stock of Henderson for the purpose of expanding its current market presence in the snow and ice segment. Total consideration was $98,676 including a working capital adjustment of $4,688. The Company paid the former shareholders of Henderson $4,141 of the working capital adjustment in the three months ended March 31, 2015 and, as of March 31, 2015 and December 31, 2014 had an outstanding payable to a former Henderson shareholder. The outstanding amount payable to the former Henderson shareholder was $3,887 and $3,340 at March 31, 2015 and December 31, 2014, respectively and is included in accrued expenses and other current liabilities. As required by the merger agreement, the Company also paid the sellers $3,790 in cash that was acquired at December 31, 2014 in the three months ended March 31, 2015. The acquisition was financed by amending the Company's senior credit facilities, which are described above in Note 5 and through the use of on hand cash. The Company did not incur any transaction expenses related to this acquisition in the three months ended March 31, 2014.

The following table summarizes the preliminary allocation of the purchase price paid and the subsequent working capital adjustment to the fair value of the net assets acquired as of the acquisition date:

Cash and cash equivalents	$ 3,950
Accounts receivable	14,951
Inventories	16,308
Refundable income taxes paid	1,149
Deferred income taxes - current	514
Other current assets	876
Property and equipment	10,848
Goodwill	47,830
Intangible assets	17,390
Other assets - long term	74
Accounts payable and other current liabilities	(16,152)
Deferred income taxes - long term	(2,866)
Other liabilities - long term	(248)
Total	$ 94,624

The fair values of the assets acquired and liabilities assumed included in the table above are preliminary and subject to change as the Company assesses certain reserves.

The following unaudited pro forma information presents the consolidated results of operations of the Company and Henderson for the three months ended March 31, 2014, as if the acquisition had occurred on January 1, 2014, with pro forma adjustments to give effect to amortization of intangible assets, depreciation of fixed assets, an increase in interest expense from acquisition financing, and certain other adjustments:

	Three Months Ended March 31, 2014
Net sales	$ 55,452
Net income	$ 594
Earnings per common share assuming dilution attributable to common shareholders	$ 0.03

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This information is presented for information purposes only and is not necessarily indicative of what the Company's results of operations would have been had the acquisition been in effect for the periods presented or future results.

14.Changes in Accumulated Other Comprehensive Loss by Component

Changes to accumulated other comprehensive loss by component for the three months ended March 31, 2015 are as follows:

	Unrealized Net Loss on Interest Rate Swap	Retiree Health Benefit Obligation	Pension Obligation	Total
Balance at December 31, 2014	$ -	$ 807	$ (6,835)	$ (6,028)
Other comprehensive loss before reclassifications	(802)	—	—	(802)
Amounts reclassified from accumulated other comprehensive loss: (1)	-	(11)	158	148
Balance at March 31, 2015	$ (802)	$ 796	$ (6,677)	$ (6,682)

(1) Amounts reclassified from accumulated other comprehensive loss:

Amortization of Other Postretirement Benefit items:	
Actuarial gains (a)	(17)
Tax expense	6
Reclassification net of tax	$ (11)
Amortization of pension items:	
Actuarial losses (a)	255
Tax benefit	(97)
Reclassification net of tax	$ 158

(a) – These components are included in the computation of benefit plan costs in Note 8.

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Changes to accumulated other comprehensive loss by component for the three months ended March 31, 2014 are as follows:

	Unrealized Net Loss on Interest Rate Swap	Retiree Health Benefit Obligation	Pension Obligation	Total
Balance at December 31, 2013	$ (184)	$ 2,234	$ (2,912)	$ (862)
Other comprehensive loss before reclassifications	(2)	-	-	(2)
Amounts reclassified from accumulated other comprehensive loss: (1)	45	(62)	32	15
Balance at March 31, 2014	$ (141)	$ 2,172	$ (2,880)	$ (849)

(1) Amounts reclassified from accumulated other comprehensive loss:	
Amortization of Other Postretirement Benefit items:	
Actuarial gains (a)	(100)
Tax expense	38
Reclassification net of tax	$ (62)
Amortization of pension items:	
Actuarial losses (a)	51
Tax benefit	(19)
Reclassification net of tax	$ 32
Realized losses on interest rate swaps reclassified to interest expense	73
Tax benefit	(28)
Reclassification net of tax	$ 45

(a) These components are included in the computation of benefit plan costs in Note 8.

15. Recent Accounting Pronouncements

In May 2014, the Financial Accounting Standards Board issued Accounting Standards Update (“ASU”) No. 2014-09 "Revenue from Contracts with Customers." ASU 2014-09 provides a single principles-based, five-step model to be applied to all contracts with customers. The five steps are to identify the contract(s) with the customer, to identify the performance obligations in the contact, to determine the transaction price, to allocate the transaction price to the performance obligations in the contract and to recognize revenue when each performance obligation is satisfied. Revenue will be recognized when promised goods or services are transferred to the customer in an amount that reflects the consideration expected in exchange for those goods or services. ASU 2014-09 will be effective for the Company beginning on January 1, 2017 and the standard allows for either full retrospective adoption or

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modified retrospective adoption. The Company is continuing to evaluate the impact that the adoption of this guidance will have on our financial condition, results of operations and the presentation of our financial statements.

Item 2.Management's Discussion and Analysis of Financial Condition and Results of Operations

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our consolidated financial statements and related notes which are included in Item 1 of this Quarterly Report on Form 10-Q, as well as the information contained in our Form 10-K (Commission File No. 001-34728) filed with the Securities and Exchange Commission.

In this Quarterly Report on Form 10-Q, unless the context indicates otherwise: "Douglas Dynamics," the "Company," "we," "our," or "us" refer to Douglas Dynamics, Inc.

Forward-Looking Statements

This Quarterly Report on Form 10-Q contains certain "forward-looking statements" within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). These statements include information relating to future events, product demand, the payment of dividends, future financial performance, strategies, expectations, competitive environment, regulation and availability of financial resources. These statements are often identified by use of words such as "anticipate," "believe," "intend," "estimate," "expect," "continue," "should," "could," "may," "project," "predict," "will" and similar expressions and include references to assumptions and relate to our future prospects, developments and business strategies. Such statements involve known and unknown risks, uncertainties and other factors that could cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by these forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to: (i) weather conditions, particularly lack of or reduced levels of snowfall and the timing of such snowfall; (ii) a significant decline in economic conditions; (iii) our inability to maintain good relationships with our distributors; (iv) lack of available or favorable financing options for our end-users or distributors; (v) increases in the price of steel or other materials necessary for the production of our products that cannot be passed on to our distributors; (vi) increases in the price of fuel; (vii) the inability of our suppliers to meet our volume or quality requirements; (viii) inaccuracies in our estimates of future demand for our products; (ix) our inability to protect or continue to build our intellectual property portfolio; (x) the effects of laws and regulations and their interpretations on our business and financial condition; (xi) our inability to develop new products or improve upon existing products in response to end-user needs; (xii) losses due to lawsuits arising out of personal injuries associated with our products; (xiii) factors that could impact the future declaration and payment of dividends; (xiv) our inability to compete effectively against competition; (xv) our inability to achieve the projected financial performance with the assets of TrynEx, which we acquired in 2013, or the business of Henderson, which we acquired in 2014; and (xvi) unexpected costs or liabilities related to the such acquisitions, as well as those discussed in the sections entitled "Risk Factors" in Part II, Item 1A of this Quarterly Report on Form 10-Q, if any, or in our most recent Annual Report on Form 10-K. Given these risks and uncertainties, you should not place undue reliance on these

forward-looking statements. In addition, the forward-looking statements in this Quarterly Report on Form 10-Q speak only as of the date hereof and we undertake no obligation, except as required by law, to update or release any revisions to any forward-looking statement, even if new information becomes available in the future.

Results of Operations

Overview

The following table sets forth, for the three months ended March 31, 2015 and 2014, the consolidated statements of operations of the Company and its subsidiaries. All intercompany balances and transactions have been eliminated in consolidation. In the table below and throughout this "Management's Discussion and Analysis of Financial Condition and Results of Operations," consolidated statements of operations data for the three months ended March 31, 2015 and 2014 have been derived from our unaudited consolidated financial statements. The

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information contained in the table below should be read in conjunction with our unaudited consolidated financial statements and the related notes included elsewhere in this Quarterly Report on Form 10-Q.

	Three Months Ended	
	March 31, 2015	March 31, 2014
	(unaudited)	
	(in thousands)	
Net sales	$ 53,890	$ 36,396
Cost of sales	37,453	22,271
Gross profit	16,437	14,125
Selling, general, and administrative expense	11,417	8,337
Intangibles amortization	1,903	1,455
Income from operations	3,117	4,333
Interest expense, net	(2,454)	(1,972)
Other expense, net	(60)	(18)
Income before taxes	603	2,343
Income tax expense	220	768
Net income	$ 383	$ 1,575

The following table sets forth for the three months ended March 31, 2015 and 2014, the percentage of certain items in our consolidated statement of operations, relative to net sales:

	Three Months Ended	
	March 31, 2015	March 31, 2014
	(unaudited)	
Net sales	100.0 %	100.0 %
Cost of sales	69.5 %	61.2 %

Gross profit	30.5	%	38.8	%
Selling, general, and administrative expense	21.2	%	22.9	%
Intangibles amortization	3.5	%	4.0	%
Income from operations	5.8	%	11.9	%
Interest expense, net	(4.6)	%	(5.5)	%
Other expense, net	(0.0)	%	-	%
Income before taxes	1.2	%	6.4	%
Income tax expense	0.4	%	2.1	%
Net income	0.8	%	4.3	%

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The following table shows our sales of snow and ice control equipment and related parts and accessories as a percentage of net sales for the three months ended March 31, 2015 and 2014.

	Three Months Ended	
	March 31, 2015	March 31, 2014
Equipment	74 %	61 %
Parts and accessories	26 %	39 %

Net Sales

Net sales were $53.9 million for the three months ended March 31, 2015 compared to $36.4 million in the three months ended March 31, 2014, an increase of $17.5 million, or 48.1%. The increase in net sales for the three months ended March 31, 2015 was attributable to $19.9 million in sales at Henderson, which was acquired on December 31, 2014. Due to sales of snow and ice control equipment at Henderson, overall sales of snow and ice control equipment increased to $39.9 million for the three months ended March 31, 2014, an increase of $17.7 million, or 80.1%. Parts and accessories sales decreased slightly by 1.8% for the three months ended March 31, 2015 compared to the corresponding period in 2014. The decrease in sales of parts and accessories was due to only modestly higher than average snowfall in the October 2014 through March 2015 snow season in North America, compared to significantly higher than average snowfall in the October 2013 through March 2014 snow season.

Cost of Sales

Cost of sales was $37.5 million for the three months ended March 31, 2015 compared to $22.3 million for the three months ended March 31, 2014, an increase of $15.2 million, or 68.2%. The increase in cost of sales for the three months ended March 31, 2015 compared to the corresponding period in 2014 was driven by $16.7 million in cost of the $19.9 million in sales at Henderson as discussed above under "—Net Sales". The Company experienced higher cost of sales as a percent of sales of 69.5% for the three-month period ended March 31, 2015 compared to 61.2% for the three month period ended March 31, 2014. The increases in cost of sales as a percentage of sales was due to higher cost of sales as a percentage of sales for Henderson products, most of which was attributable to a $2.0 million fair value purchase accounting write up of inventory that was sold during the period. As a percentage of cost of sales, fixed and variable costs were approximately 20% and 80%, respectively, for the three months ended March 31, 2015

versus approximately 16% and 84%, respectively, for the three months ended March 31, 2014.

Gross Profit

Gross profit was $16.4 million for the three months ended March 31, 2015 compared to $14.1 million in the three months ended March 31, 2014, an increase of $2.3 million, or 16.3%. Gross profit increased for the three month period due to the sale of Henderson products and an increase in equipment units sold, slightly offset by decreases in parts and accessories sold. As a percentage of net sales, gross profit decreased from 38.8% for the three months ended March 31, 2014 to 30.5% for the corresponding period in 2015. The reasons for the decrease in gross profit as a percentage of net sales are the same as those relating to the increase in cost of sales as a percentage of sales discussed above under "—Cost of Sales."

Selling, General and Administrative Expense

Selling, general and administrative expenses, including intangibles amortization, were $13.3 million for the three months ended March 31, 2015, compared to $9.8 million for the three months ended March 31, 2014, an increase of $3.5 million, or 35.7%. The increase compared to 2014 was mostly due to expenses related to ongoing operations at Henderson of $2.5 million. Intangible amortization expense increased $0.4 million due to additional intangible assets created as a result of the Henderson acquisition. The remainder of the increase is due to the timing of advertising and promotional expenses.

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Interest Expense

Interest expense was $2.5 million for the three months ended March 31, 2015 which was higher than the $2.0 million incurred in the same period in the prior year. Interest expense increased due to modifications made to the Company's existing term loan facility in connection with the financing of the Henderson acquisition.

Income Taxes

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. The largest item affecting deferred taxes is the difference between book and tax amortization of goodwill and other intangibles amortization. The Company's effective tax rates were 36.5% and 32.8% for the three months ended March 31, 2015 and 2014, respectively. The effective tax rate for the three months ended March 31, 2015 is higher than the corresponding period in 2014 due to the Company generating additional state tax liabilities with the acquisition of Henderson.

Net Income

Net income for the three months ended March 31, 2015 was $0.4 million compared to net income of $1.6 million for the corresponding period in 2014, a decrease in net income of $1.2 million. The decrease in net income for the three months ended March 31, 2015 was driven by the factors described above under "— Net Sales," "—Cost of Sales" "— Selling General and Administrative Expense" and "—Interest Expense." As a percentage of net sales, net income was 0.8% for the three months ended March 31, 2015 compared to 4.3% for the three months ended March 31, 2014.

Adjusted EBITDA

Adjusted EBITDA for the three months ended March 31, 2015 was $9.6 million compared to $8.3 million in the corresponding period in 2014, an increase of $1.6 million. For the three month period ended March 31, 2015 the increase in Adjusted EBITDA is attributable to the increase in sales resulting from the Henderson acquisition and the increase in sales of snow and ice control equipment slightly offset by the decrease in sales of parts and accessories.

Free Cash Flow

Free cash flow for the three months ended March 31, 2015 was $10.1 million compared to $8.9 million in the corresponding period in 2014, an increase in cash provided of $1.2 million. The increase in free cash flow is primarily a result of higher cash provided by operating activities of $1.1 million, as discussed below under "Liquidity and Capital Resources." Meanwhile, acquisitions of property and equipment decreased from $1.3 million for the three months ended March 31, 2014 to $1.2 million for the three months ended March 31, 2015.

Non-GAAP Financial Measures

This Quarterly Report on Form 10-Q contains financial information calculated other than in accordance with U.S. generally accepted accounting principles ("GAAP").

These non-GAAP measures include:

- Free cash flow; and
- Adjusted EBITDA.

These non-GAAP disclosures should not be construed as an alternative to the reported results determined in accordance with GAAP.

Free cash flow is a non-GAAP financial measure which we define as net cash provided by operating activities less capital expenditures. Free cash flow should be evaluated in addition to, and not considered a

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substitute for, other financial measures such as net income and cash flow provided by operations. We believe that free cash flow represents our ability to generate additional cash flow from our business operations.

The following table reconciles net cash provided by operating activities, a GAAP measure, to free cash flow, a non-GAAP measure.

	Three Months Ended	
	March 31, 2015	March 31, 2014
	(In Thousands)	
Net cash provided by operating activities	$ 11,326	$ 10,224
Acquisition of property and equipment	(1,254)	(1,290)
Free cash flow	$ 10,072	$ 8,934

Adjusted EBITDA represents net income before interest, taxes, depreciation and amortization, as further adjusted for certain charges consisting of unrelated legal and consulting fees, stock based compensation and certain purchase accounting expenses. We use, and we believe our investors benefit from the presentation of Adjusted EBITDA in evaluating our operating performance because it provides us and our investors with additional tools to compare our operating performance on a consistent basis by removing the impact of certain items that management believes do not directly reflect our core operations. In addition, we believe that Adjusted EBITDA is useful to investors and other external users of our consolidated financial statements in evaluating our operating performance as compared to that of other companies, because it allows them to measure a company's operating performance without regard to items such as interest expense, taxes, depreciation and amortization, which can vary substantially from company to company depending upon accounting methods and book value of assets and liabilities, capital structure and the method by which assets were acquired. Our management also uses Adjusted EBITDA for planning purposes, including the preparation of our annual operating budget and financial projections. Management also uses Adjusted EBITDA to evaluate our ability to make certain payments, including dividends, in compliance with our senior credit facilities, which is determined based on a calculation of "Consolidated Adjusted EBITDA" that is substantially similar to Adjusted EBITDA.

Adjusted EBITDA has limitations as an analytical tool. As a result, you should not consider it in isolation, or as a substitute for net income, operating income, cash flow from operating activities or any other measure of financial performance or liquidity presented in accordance with GAAP. Some of these limitations are:

- Adjusted EBITDA does not reflect our cash expenditures or future requirements for capital expenditures or contractual commitments;
- Adjusted EBITDA does not reflect changes in, or cash requirements for, our working capital needs;
- Adjusted EBITDA does not reflect the interest expense, or the cash requirements necessary to service interest or principal payments, on our indebtedness;
    - Although depreciation and amortization are non-cash charges, the assets being depreciated and amortized will often have to be replaced in the future, and Adjusted EBITDA does not reflect any cash requirements for such replacements;
- Other companies, including other companies in our industry, may calculate Adjusted EBITDA differently than we do, limiting its usefulness as a comparative measure; and
- Adjusted EBITDA does not reflect tax obligations whether current or deferred.

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The following table presents a reconciliation of net income, the most comparable GAAP financial measure, to Adjusted EBITDA as well as the resulting calculation of Adjusted EBITDA for the three months ended March 31, 2015 and 2014:

	Three Months Ended March 31, 2015	March 31, 2014
	(in thousands)	
Net income	$ 383	$ 1,575
Interest expense - net	2,454	1,972
Income tax expense	220	768
Depreciation expense	1,152	824
Amortization	1,903	1,455
EBITDA	6,112	6,594
Stock based compensation expense	1,124	1,022
Purchase accounting (1)	2,188	136
Other charges (2)	184	511
Adjusted EBITDA	$ 9,608	$ 8,263

(1) Reflects $96 and $1,956, respectively, in earn-out compensation expense related to Henderson and inventory step up related to Henderson included in cost of sales in the three months ended March 31, 2015. Reflects $136 in earnout compensation expense related to TrynEx in both of the three months ended March 31, 2015 and March 31, 2014.

(2) Reflects expenses of $184 and $511 for one time, unrelated legal and consulting fees for the three months ended March 31, 2015 and March 31, 2014, respectively.

Discussion of Critical Accounting Policies

For a discussion of our critical accounting policies, please see the disclosure included in our Form 10-K (Commission File No. 001-34728) filed with the Securities and Exchange Commission, under the heading “Management’s Discussion and Analysis of Financial Condition and Results of Operation — Critical Accounting Policies.”

New Accounting Pronouncements

In May 2014, the Financial Accounting Standards Board issued Accounting Standards Update (“ASU”) No. 2014-09 "Revenue from Contracts with Customers." ASU 2014-09 provides a single principles-based, five-step model to be applied to all contracts with customers. The five steps are to identify the contract(s) with the customer, to identify the performance obligations in the contact, to determine the transaction price, to allocate the transaction price to the performance obligations in the contract and to recognize revenue when each performance obligation is satisfied. Revenue will be recognized when promised goods or services are transferred to the customer in an amount that reflects the consideration expected in exchange for those goods or services. ASU 2014-09 will be effective for the Company beginning on January 1, 2017 and the standard allows for either full retrospective adoption or modified retrospective adoption. The Company is continuing to evaluate the impact that the adoption of this guidance will have on our financial condition, results of operations and the presentation of our financial statements.

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Liquidity and Capital Resources

Our principal sources of cash have been and we expect will continue to be cash from operations and borrowings under our senior credit facilities.

Our primary uses of cash are to provide working capital, meet debt service requirements, finance capital expenditures, pay dividends under our dividend policy and support our growth, including through potential acquisitions, and for other general corporate purposes. For a description of the seasonality of our working capital rates see "—Seasonality and Year To Year Variability."

Our Board of Directors has adopted a dividend policy that reflects an intention to distribute to our stockholders a regular quarterly cash dividend. The declaration and payment of these dividends to holders of our common stock is at the discretion of our Board of Directors and depends upon many factors, including our financial condition and earnings, legal requirements, taxes and other factors our Board of Directors may deem to be relevant. The terms of our indebtedness may also restrict us from paying cash dividends on our common stock under certain circumstances. As a result of this dividend policy, we may not have significant cash available to meet any large unanticipated liquidity requirements. As a result, we may not retain a sufficient amount of cash to fund our operations or to finance unanticipated capital expenditures or growth opportunities, including acquisitions. Our Board of Directors may, however, amend, revoke or suspend our dividend policy at any time and for any reason.

As of March 31, 2015, we had $91.1 million of total liquidity, comprised of $20.8 million in cash and cash equivalents and borrowing availability of $70.3 million under our revolving credit facility, compared with total liquidity as of December 31, 2014 of approximately $99.3 million, comprised of approximately $24.2 million in cash and cash equivalents and borrowing availability of approximately $75.1 million under our revolving credit facility. The decrease in our total liquidity from December 31, 2014 is primarily due to working capital needs and our borrowing base. Borrowing availability under our revolving credit facility is governed by a borrowing base, the calculation of which includes cash on hand. Accordingly, use of cash on hand may also result in a reduction in the amount available for borrowing under our revolving credit facility. Furthermore, our revolving credit facility requires us to maintain at least $10.5 million of borrowing availability and 15% of the aggregate revolving commitments at the time of determination. We expect that cash on hand and cash we generate from operations, as well as available credit under our senior credit facilities, will provide adequate funds for the purposes described above for at least the next 12 months.

The following table shows our cash and cash equivalents and inventories in thousands at March 31, 2015, December 31, 2014 and March 31, 2014.

	As of March 31, 2015	December 31, 2014	March 31, 2014
Cash and cash equivalents	$ 20,800	$ 24,195	$ 10,548
Inventories	70,953	48,248	46,879

We had cash and cash equivalents of $20.8 million at March 31, 2015 compared to cash and cash equivalents of $24.2 million and $10.5 million at December 31, 2014 and March 31, 2014, respectively. The table below sets forth a summary of the significant sources and uses of cash for the periods presented in thousands.

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Cash Flows (in thousands)	Three Months Ended March 31, 2015	March 31, 2014	Change	% Change
Net cash provided by operating activities	$ 11,326	$ 10,224	$ 1,102	10.8 %
Net cash used in investing activities	(9,185)	(1,290)	(7,895)	612.0 %
Net cash used in financing activities	(5,536)	(18,250)	12,714	(69.7) %
Decrease in cash	$ (3,395)	$ (9,316)	$ 5,921	(63.6) %

Net cash provided by operating activities increased $1.1 million from the three months ended March 31, 2014 to the three months ended March 31, 2015. The increase in cash provided by operating activities was due to a $0.5 million increase in net income adjusted for reconciling items and favorable changes in working capital of $0.6 million.

Net cash used in investing activities increased $7.9 million for the three months ended March 31, 2015, compared to the corresponding period in 2014. This increase was primarily due to the $7.9 million cash payments that occurred in the three months ended March 31, 2015 related to the acquisition of Henderson.

Net cash used in financing activities decreased $12.7 million for the three months ended March 31, 2015 compared to the corresponding period in 2014. The decrease in cash used in financing activities was primarily a result of the repayment of $13.0 million outstanding on our revolving credit facility during the three months ended March 31, 2014 while we did not make any payments in the three months ending March 31, 2015 as we had no outstanding borrowings on our revolving credit facility at December 31, 2014.

Contractual Obligations

There have been no material changes to our contractual obligations in the three months ended March 31, 2015.

Off-Balance Sheet Arrangements

We are not party to any off-balance sheet arrangements that have or are reasonably likely to have a material current or future effect on our financial condition, changes in financial condition, revenues, expenses, results of operations, liquidity, capital expenditures or capital resources.

Seasonality and Year-to-Year Variability

Our business is seasonal and also varies from year-to-year. Consequently, our results of operations and financial condition vary from quarter-to-quarter and from year-to-year as well. In addition, because of this seasonality and variability, our results of operations for any quarter may not be indicative of results of operations that may be achieved for a subsequent quarter or the full year, and may not be similar to results of operations experienced in prior years. That being the case, while snowfall levels vary within a given year and from year-to-year, snowfall, and the corresponding replacement cycle of snow and ice control equipment, is relatively consistent over multi-year periods.

Sales of our products are significantly impacted by the level, timing and location of snowfall, with sales in any given year and region most heavily influenced by snowfall levels in the prior snow season (which we consider to begin in October and end in March) in that region. This is due to the fact that end-user demand for our products is driven primarily by the condition of their snow and ice control equipment, and in the case of professional snowplowers, by their financial ability to purchase new or replacement snow and ice control equipment, both of

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which are significantly affected by snowfall levels. Heavy snowfall during a given winter causes usage of our products to increase, resulting in greater wear and tear to our products and a shortening of their life cycles, thereby creating a need for replacement snow and ice control equipment and related parts and accessories. In addition, when there is a heavy snowfall in a given winter, the increased income our professional snowplowers generate from their professional snowplow activities provides them with increased purchasing power to purchase replacement snow and ice control equipment prior to the following winter. To a lesser extent, sales of our products are influenced by the timing of snowfall in a given winter. Because an early snowfall can be viewed as a sign of a heavy upcoming snow season, our end-users may respond to an early snowfall by purchasing replacement snow and ice control equipment during the current season rather than delaying purchases until after the season is over when most purchases are typically made by end-users.

We attempt to manage the seasonal impact of snowfall on our revenues in part through our pre-season sales program, which involves actively soliciting and encouraging pre-season distributor orders in the second and third quarters by offering our distributors a combination of pricing, payment and freight incentives during this period. These pre-season sales incentives encourage our distributors to re-stock their inventory during the second and third quarters in anticipation of the peak fourth quarter retail sales period by offering pre-season pricing and payment deferral until the fourth quarter. As a result, we tend to generate our greatest volume of sales (an average of over two-thirds over the last ten years) during the second and third quarters, providing us with manufacturing visibility for the remainder of the year. By contrast, our revenue and operating results tend to be lowest during the first quarter, as management believes our end-users prefer to wait until the beginning of a snow season to purchase new equipment and as our distributors sell off inventory and wait for our pre-season sales incentive period to re-stock inventory. Fourth quarter sales vary from year-to-year as they are primarily driven by the level, timing and location of snowfall during the quarter. This is because most of our fourth quarter sales and shipments consist of re-orders by distributors seeking to restock inventory to meet immediate customer needs caused by snowfall during the winter months.

Because of the seasonality of our sales, we experience seasonality in our working capital needs as well. In the first quarter, we typically require capital as we are generally required to build our inventory in anticipation of our second and third quarter pre-season sales. During the second and third quarters, our working capital requirements rise as our accounts receivable increase as a result of the sale and shipment of products ordered through our pre-season sales program and we continue to build inventory. Working capital requirements peak towards the end of the third quarter and then begin to decline through the fourth quarter through a reduction in accounts receivable when we receive the majority of the payments for pre-season shipped products.

We also attempt to manage the impact of seasonality and year-to-year variability on our business costs through the effective management of our assets. Our asset management and profit focus strategies include:

- the employment of a highly variable cost structure facilitated by a core group of workers that we supplement with a temporary workforce as sales volumes dictate, which allows us to adjust costs on an as-needed basis in response to changing demand;
- our enterprise-wide lean concept, which allows us to adjust production levels up or down to meet demand;
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the pre-season order program described above, which incentivizes distributors to place orders prior to the retail selling season; and

- a vertically integrated business model.

These asset management and profit focus strategies, among other management tools, allow us to adjust fixed overhead and sales, general and administrative expenditures to account for the year-to-year variability of our sales volumes.

Additionally, although modest, our annual capital expenditure requirements can be temporarily reduced by up to approximately 40% in response to actual or anticipated decreases in sales volumes. If we are unsuccessful in our asset management initiatives, the seasonality and year-to-year variability effects on our business may be compounded and in turn our results of operations and financial condition may suffer.

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Item 3.Quantitative and Qualitative Disclosures About Market Risk

We do not use financial instruments for speculative trading purposes, and do not hold any derivative financial instruments that could expose us to significant market risk. Our primary market risk exposures are changes in interest rates and steel price fluctuations.

Interest Rate Risk

We are exposed to market risk primarily from changes in interest rates. Our borrowings, including our term loan and any revolving borrowings under our senior credit facilities, are at variable rates of interest and expose us to interest rate risk. A portion of our interest rate risk associated with our term loan is mitigated through an interest rate swap as discussed in Note 5 to the Consolidated Financial Statements, above. In addition, the interest rate on any revolving borrowings is subject to an increase in the interest rate based on our average daily availability under our revolving credit facility.

As of March 31, 2015, we had outstanding borrowings under our term loan of $187.7 million. A hypothetical interest rate change of 1%, 1.5% and 2% on our term loan would have changed interest incurred for the three months ended March 31, 2015 by $0.1 million, $0.4 million and $0.6 million, respectively. We entered into three interest rate swap agreements with notional amounts of $45.0 million, $90.0 million and $135.0 million effective for the periods December 31, 2015 through March 29, 2018, March 29, 2018 through March 31, 2020 and March 31, 2020 through June 30, 2021, respectively. We have counterparty credit risk resulting from the interest rate swap, which we monitor on an on-going basis. This risk lies with one global financial institution. Under the interest rate swap agreement, effective as of December 31, 2015, we will either receive or make payments on a monthly basis based on the differential between 6.105% and LIBOR plus 4.25% (with a LIBOR floor of 1.0%). Under the interest rate swap agreement, effective as of March 29, 2018, we will either receive or make payments on a monthly basis based on the differential between 6.916% and LIBOR plus 4.25% (with a LIBOR floor of 1.0%). Under the interest rate swap agreement, effective as of March 31, 2020, we will either receive or make payments on a monthly basis based on the differential between 7.168% and LIBOR plus 4.25% (with a LIBOR floor of 1.0%). As of March 31, 2015, we had no outstanding borrowings under our revolving credit facility.

Commodity Price Risk

In the normal course of business, we are exposed to market risk related to our purchase of steel, the primary commodity upon which our manufacturing depends. Our steel purchases as a percentage of revenue were 21.9% for the three a months ended March 31, 2015, compared to 26.0% for the three months ended March 31, 2014. While steel is typically available from numerous suppliers, the price of steel is a commodity subject to fluctuations that apply across broad spectrums of the steel market. We do not use any derivative or hedging instruments to manage steel price

risk. If the price of steel increases, our variable costs could also increase. While historically we have successfully mitigated these increased costs through the implementation of either permanent price increases and/or temporary invoice surcharges, in the future we may not be able to successfully mitigate these costs, which could cause our gross margins to decline. If our costs for steel were to increase by $1.00 in a period where we are not able to pass any of this increase onto our distributors, our gross margins would decline by $1.00 in the period in which such inventory was sold.

Item 4.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 disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended) as of the end of the period covered by this Quarterly Report on Form 10-Q. Based on that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that as of the end of the period covered by this Quarterly Report our disclosure controls and procedures were effective to provide reasonable assurance that information required to be disclosed by us in reports that we file or submit under the Securities Exchange Act of 1934, as amended, is recorded, processed, summarized and reported within the time periods specified in the SEC’s rules and forms, and include controls and procedures designed to ensure that the information required to be disclosed by us in such reports is accumulated and communicated to our management,

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including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosures.

Changes in Internal Control Over Financial Reporting

There have been no changes in the Company's internal control over financial reporting that occurred during the period covered by this Quarterly Report on Form 10-Q that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

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PART II. OTHER INFORMATION

Item 1.Legal Proceedings

In the ordinary course of business, we are engaged in various litigation primarily including product liability and intellectual property disputes. However, management does not believe that any current litigation is material to our operations or financial position. In addition, we are not currently party to any environmental-related claims or legal matters.

Item 1A.Risk Factors

There have been no significant changes in our risk factors from those described in our Annual Report on Form 10-K for the year ended December 31, 2014.

Item 2.Unregistered Sales of Equity Securities and Use of Proceeds

Unregistered Sales of Equity Securities

During the three months ended March 31, 2015, the Company sold no securities that were not registered under the Securities Act of 1933, as amended.

Purchase of Equity Securities

In March 2015, the Company withheld approximately 1,191 shares of the Company’s common stock from employees to satisfy minimum tax withholding obligations that arose upon vesting of restricted stock granted pursuant to the Company’s shareholder-approved equity incentive plan.

Dividend Payment Restrictions

The Company's senior credit facilities include certain restrictions on its ability to pay dividends. The senior credit facilities also restrict the Company's subsidiaries from paying dividends and otherwise transferring assets to Douglas Dynamics, Inc. For additional detail regarding these restrictions, see Note 5 to the notes to the consolidated financial statements.

Item 3.Defaults Upon Senior Securities

None.

Item 4.Mine Safety Disclosures

None.

Item 5.Other Information

None.

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Item 6.Exhibits

The following documents are filed as Exhibits to this Quarterly Report on Form 10-Q:

Exhibit Numbers	Description
31.1*	Certification of the Company's Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2*	Certification of the Company's Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1*	Certification of the Company's Chief Executive Officer and Chief Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101*	Financial statements from the quarterly report on Form 10-Q of Douglas Dynamics, Inc. for the quarter ended March 31, 2015, filed on May 5, 2015, formatted in XBRL: (i) the Consolidated Balance Sheets; (ii) the Consolidated Statements of Operations and Comprehensive Income; (iii) the Consolidated Statements of Cash Flows; and (iv) the Notes to the Consolidated Financial Statements

*Filed herewith.

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SIGNATURES

Pursuant to the requirements 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.

DOUGLAS DYNAMICS, INC.

By: /s/ ROBERT MCCORMICK
Robert McCormick
Executive Vice President and Chief Financial Officer
(Principal Financial Officer and Authorized Signatory)

Dated: May 5, 2015

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Exhibit Index to Form 10-Q for the Period Ended March 31, 2015

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*Filed herewith.