

BIOANALYTICAL SYSTEMS INC  
Form 10-K  
December 21, 2018

**UNITED STATES**

**SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549**

**FORM 10-K**

(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934  
for the fiscal year ended September 30, 2018.

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF  
1934 for the transition period from \_\_\_\_\_ to \_\_\_\_\_.

Commission File Number 000-23357

**BIOANALYTICAL SYSTEMS, INC.**

(Exact name of the registrant as specified in its charter)

INDIANA 35-1345024  
(State or other jurisdiction of incorporation or organization) (I.R.S. Employer Identification No.)

2701 KENT AVENUE 47906  
WEST LAFAYETTE, INDIANA  
(Address of principal executive offices) (Zip code)

(765) 463-4527

(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act: None

Securities registered pursuant to section 12(g) of the Act: Common Shares

Indicate by checkmark if the registrant is a well-known seasoned issuer, as defined by Rule 405 of the Securities Act.

YES  NO

Indicate by checkmark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the

Act. YES  NO

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

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). YES  NO

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

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

Large accelerated filer  Accelerated filer  Non-accelerated filer  Smaller Reporting Company   
Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. "

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). YES " NO  
x

Based on the closing price on the NASDAQ Capital Market on March 31, 2018, the aggregate market value of the voting and non-voting common equity held by non-affiliates of the registrant was \$11,125,000. As of December 14, 2018, 10,245,277 of registrant's common shares were outstanding.

#### **DOCUMENTS INCORPORATED BY REFERENCE**

Portions of the registrant's Proxy Statement to be delivered to stockholders in connection with the Annual Meeting of Stockholders have been incorporated by reference into Part III of this report.

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## **PART I**

*This Report may contain "forward-looking statements," within the meaning of Section 27A of the Securities Act of 1933, as amended, and/or Section 21E of the Securities Exchange Act of 1934, as amended. Those statements may include, but are not limited to, discussions regarding our intent, belief or current expectations with respect to (i) our strategic plans; (ii) trends in the demand for our products and services; (iii) trends in the industries that consume our products and services; (iv) our ability to develop new products and services; (v) our ability to make capital expenditures and finance operations; (vi) global economic conditions, especially as they impact our markets; (vii) our cash position; (viii) our ability to integrate a new sales team; (ix) our ability to service our outstanding indebtedness and (x) our expectations regarding the volume of new bookings, pricing, gross profit margins and liquidity. Investors in our common shares are cautioned that reliance on any forward-looking statement involves risks and uncertainties, including the risk factors beginning on page 16 of this Report. Although we believe that the assumptions on which the forward-looking statements contained herein are based are reasonable, any of those assumptions could prove inaccurate and, as a result, the forward-looking statements based upon those assumptions could be significantly different from actual results. In light of the uncertainties inherent in any forward-looking statement, the inclusion of a forward-looking statement herein should not be regarded as a representation by us that our plans and objectives will be achieved. We do not undertake any obligation to update any forward-looking statement, except as required by law. The following amounts are in thousands unless otherwise indicated.*

### **ITEM 1 - BUSINESS**

#### **General**

Bioanalytical Systems, Inc. and its subsidiaries ("We," "Our," "us," the "Company," or "BASi") is a contract research organization ("CRO") that provides drug discovery and development services to the pharmaceutical industry, and sells analytical instruments to the pharmaceutical development and contract research industries. Our mission is to provide drug developers with superior scientific research and innovative analytical instrumentation in order to bring revolutionary new drugs to market quickly and safely. Our strategy is to provide services that will generate high-quality and timely data in support of new drug approval or use expansion. Our clients and partners include pharmaceutical, biotechnology, academic and government organizations. We provide innovative technologies and products and a commitment to quality to help clients and partners accelerate the development of safe and effective therapeutics and maximize the returns on their research and development investments. We offer an efficient, variable-cost alternative to our clients' internal product development programs. Outsourcing development work to reduce overhead and speed drug approvals through the Food and Drug Administration ("FDA") is an established alternative to in-house development among pharmaceutical companies. We derive our revenues from sales of our research services and drug development instruments, both of which are focused on evaluating drug safety and efficacy. The Company has been involved in the research of drugs to treat numerous therapeutic areas for over 40 years since its formation as a corporation organized in Indiana in 1974.

We support both the non-clinical and clinical development needs of researchers and clinicians for small molecule drug candidates. Our scientists have the skills in analytical instrumentation development, chemistry, computer software development, histology, pathology, physiology, medicine, analytical chemistry and toxicology to make the services and products we provide increasingly valuable to our current and potential clients. Our principal clients are scientists engaged in analytical chemistry, drug safety evaluation, clinical trials, drug metabolism studies, pharmacokinetics and basic research from small start-up biotechnology companies to many of the largest global pharmaceutical companies. We are committed to bringing scientific expertise, quality and speed to every drug discovery and development program to help our clients develop safe and effective life-changing medicines.

Developments within the industries we serve have a direct, and sometimes material, impact on our operations. Currently, many large pharmaceutical companies have major "blockbuster" drugs that are nearing the end of their patent protections. This puts significant pressure on these companies both to develop new drugs with large market opportunity, and to re-evaluate their cost structures and the time-to-market of their products. Contract research organizations have benefited from these developments, as the pharmaceutical industry has turned to out-sourcing to both reduce fixed costs and to increase the speed of research and data development necessary for new drug applications. The number of significant drugs that have reached or are nearing the end of their patent protection has also benefited the generic drug industry. Generic drug companies provide a significant source of new business for CROs as they develop, test and manufacture their generic compounds.

A significant portion of innovation in the pharmaceutical industry is now being driven by biotech and small, venture capital funded drug development companies. Many of these companies are "single-molecule" entities, whose success depends on one innovative compound. While several biotech companies have reached the status of major pharmaceutical companies, the industry is still characterized by smaller entities. These developmental companies generally do not have the resources to perform much of the research within their organizations, and are therefore dependent on the CRO industry for both their research and for guidance in preparing their regulatory submissions. These companies have provided significant new opportunities for the CRO industry, including BASI. We believe that the Company is ideally positioned to serve these customers as they look for alternatives to the large CROs that cater primarily to the large pharmaceutical company segment of the marketplace.

## **Recent Developments**

On July 2, 2018, we acquired substantially all of the assets of Seventh Wave Laboratories, LLC, a consulting-based contract research laboratory located in Maryland Heights, Missouri under the terms and conditions of an Asset Purchase Agreement, dated July 2, 2018 (the "Acquisition"). Seventh Wave provides integrated services for discovery and preclinical drug development. In connection with the Acquisition, on July 2, 2018, we entered into an amendment to our credit arrangements with First Internet Bank. Refer to Note 7 and Note 11 to the Consolidated Financial Statements for additional information. We anticipate capitalizing on the collective skill sets, expertise and assets acquired via the Acquisition to expand our service offerings and reach additional clients.

## **Industry Overview**

Drug discovery and development is the process of creating drugs for the treatment of human disease. The drug discovery process aims to identify potential drug candidates, while the drug development process involves the testing of these drug candidates in animals and humans to meet requirements for regulatory approval. The process for researching and developing new medicines is growing in difficulty and length. On average, it takes at least ten years for a new medicine to complete the journey from initial discovery to the marketplace, with clinical trials alone taking six to seven years on average. The average cost to research and develop each successful drug is estimated to be \$2.6 billion. This number incorporates the cost of failures – of the thousands and sometimes millions of compounds that may be screened and assessed early in the R&D process, only a few will ultimately receive approval. The overall probability of clinical success (the likelihood that a drug entering clinical testing will eventually be approved) is estimated to be less than 10%.

The drug development services industry provides independent product development services to pharmaceutical companies, biotechnology companies, and government organizations. This industry has evolved from providing limited clinical trial services in the 1970s to a full-service industry today characterized by broader relationships with clients and by service offerings that encompass the entire drug development process, including non-clinical efficacy

and safety evaluations, study design, clinical trial management, data collection, biostatistical analyses, regulatory consulting, clinical laboratory and diagnostic services, pre- and post-approval safety analysis, product registration and post-approval support.

Over the past few decades, technological advances, as well as the emergence of the biotechnology industry, have dramatically changed the drug discovery process. New and improved technologies have evolved such as ultra-high-throughput screening, new in vitro and in vivo preclinical profiling techniques and the gene-based drug research commonly referred to as genomics. The objective of these innovations is to find more drug targets and to screen chemical compounds against targets much more quickly, with literally millions of compounds possible. This process is expected to produce many more molecules having the ability to affect biological activity. These molecules then need to be tested quickly and economically to determine their viability as potentially safe and effective drug candidates.

## **Trends Affecting the Drug Discovery and Development Industry**

Our services and products are marketed globally to pharmaceutical, medical research and biotechnology companies and institutions (academic and governmental) engaged in drug research and development. The research services industry is highly fragmented among many niche vendors as well as a small number of consolidating larger companies; the latter offer an ever-growing portfolio of start-to-finish pharmaceutical development services. Our services and products may have distinctly different clients (including separate divisions in a single large pharmaceutical company) and requirements. We believe that market trends in the pharmaceutical and biotech industries demonstrate an increasing emphasis towards outsourcing, as companies seek to maintain reduced internal resources in favor of variable cost models that offer high quality and higher accountability alternatives to meet their drug discovery, development and manufacturing needs. We believe that our clients are facing increased pressure to outsource facets of their research and development activities and that the following factors will increase client outsourcing.

### *Accelerated Drug Development*

Clients continue to demand faster, more efficient, more selective development of an increasing pool of drug candidates. Consequently, our clients require fast, high-quality service in order to make well-informed decisions to quickly exclude poor candidates and speed development of successful ones. The need for additional development capacity to exploit more opportunities, accelerate development, extend market exclusivity and increase profitability drives the demand for outsourced services.

### *Increase in Potential New Drug Candidates*

While research and development spending and the number of drug candidates are increasing, the time and cost required to develop a new drug candidate have also increased. Many small and virtual pharmaceutical and biotechnology companies do not have sufficient internal resources to pursue development of all of the new drug candidates on their own. Consequently, these companies are looking to the drug discovery and development services industry for cost-effective, innovative and rapid means of developing new drugs.

### *Cost Pressures of Introducing New Drugs*

Market forces, healthcare reform and other governmental initiatives place significant pressures on pharmaceutical and biotechnology companies to reduce drug prices. In addition, increased competition as a result of patent expiration, market acceptance of generic drugs, and governmental and privately managed care organization efforts to reduce healthcare costs have added to drug pricing pressures. The pharmaceutical industry is responding by consolidating, streamlining operations, decentralizing internal discovery and development processes, and minimizing fixed costs. In addition, increased pressures to differentiate products and justify drug pricing are resulting in an increased focus on healthcare economics, safety monitoring and commercialization services. Moreover, pharmaceutical and biotechnology companies are attempting to increase the speed and efficiency of internal new drug discovery and development processes.

### Patent Expiration

As exclusivity ends with patent expiry, drug companies defend their proprietary positions against generic competition with various patent extension strategies. Both the drug company pursuing these extensions and the generic competitors provide additional opportunities for the Company.

### Alliances

Strategic alliances allow pharmaceutical companies to share research know-how and to develop and market new drugs faster in more diverse, global markets. We believe that such alliances will lead to a greater number of potential drugs in testing, many under study by small and virtual companies lacking broad technical resources. These small companies can add shareholder value by further developing new products through outsourcing, reducing risk for potential allies. Clients seek realistic business partnerships with their service provider in an effort to ensure that costs are controlled and scientific continuity is maintained as their development programs progress. We have long-standing business relationships with many pharmaceutical companies and continue to offer flexible services and adapt to our clients' requirements.

*Mergers and Acquisitions*

Consolidation in the pharmaceutical industry as well as its supporting contract research industry is commonplace. As pharmaceutical industry firms blend personnel, resources and business activities, we believe they will continue to streamline operations and minimize staffing, which will lead to more outsourcing and a dependence on small and virtual drug discovery efforts to feed their pipelines. Consolidation may result in a disruption in the progress of drug development programs as merging companies rationalize their respective drug development pipelines.

*Biotechnology Industry and Virtual Drug Company Growth*

The U.S. biotechnology industry has grown rapidly over the last decade and has emerged as a key customer segment for the drug discovery and development services industry. In recent years, this industry has generated significant numbers of new drug candidates that will require development and regulatory approval. Many biotechnology drug developers do not have in-house resources to conduct early stage drug development. Many new companies choose only to carry a product to a developed stage sufficient to attract a partner who will manufacture and market the drug. Because of the time and cost involved, these companies rely heavily on CROs to conduct research for their drug candidates.

*Unique Technical Expertise*

The increasing complexity of new drugs requires highly specialized, innovative, solution-driven research not available in all customer labs. We believe that this need for unique technical expertise will increasingly lead to outsourcing of research activity. In addition, the reliance of the pharmaceutical industry on small innovative drug discovery companies which are often overlooked by large CROs creates an opportunity for strategic partnership with small, consulting-based and innovative CROs such as ours.

*Data Management and Quality Expertise*

Our clients and worldwide regulatory authorities require more data, greater access to that data, consistent and auditable management of that data, and greater security and control of that data. We have made significant investments in software throughout our contract services groups to optimize efficiency and promote compliance with regulations and market expectations.

*Globalization of the Marketplace*

Foreign firms rely on independent development companies like ours with experience in the U.S. to provide integrated services through all phases of product development and to assist in preparing complex regulatory submissions. Domestic drug firms are broadening product availability globally, demanding local regulatory approval. We believe that we and other domestic service providers with global reach, established regulatory expertise, and a broad range of integrated development services and products will benefit from this trend.

**Our Solution**

We address the needs of the pharmaceutical and biotechnology industries, as well as academic, non-profit and government organizations, for drug discovery and development by providing integrated products and services to help our clients maximize the return on their research and development investments. Our application of innovative technologies and products and our commitment to quality throughout the drug discovery and development process offer our clients a way to identify and develop successful drugs and devices more quickly and cost-effectively. We have obtained significant drug development expertise from more than 40 years of operation.

**The Company's Role in the Drug Development Process**

In addition to providing research support prior to identification of new drug candidates, after a new drug candidate is identified and carried through this preliminary screening, the development process for new drugs has three distinct phases.

1) The **nonclinical phase** includes safety testing to prepare an Investigational New Drug ("IND") application for submission to the FDA. The IND must be accepted by the FDA before the drug can be tested in humans. Once a pharmacologically active molecule is fully analyzed to confirm its integrity, the initial dosage form for clinical trials is created. An analytical chemistry method is developed to enable reliable quantification. Stability and purity of the formulation are also determined.

Clients work with our nonclinical services group to establish initial pharmacokinetics (PK), pharmacodynamics (PD) and safety characteristics of the drug candidate. These safety studies range from dose ranging studies, that involve acute safety monitoring of drugs and medical devices to chronic, multi-year oncogenicity and reproductive toxicity studies. Dose formulation analysis is provided by our pharmaceutical analysis group. Bioanalyses of blood sampled under these protocols by our bioanalytical services group provide pharmacokinetic and metabolism data that is used with the safety and toxicity information to determine the exposure required to demonstrate toxicity. A no adverse effect level is then established for the drug and sets the basis for future safety testing and clinical phase I studies. Upon successful completion of nonclinical safety studies, an IND submission is prepared and reviewed by FDA prior to initiation of human clinical trials.

Many of our products are designed for use in discovery and nonclinical development. The *Culex*® family of robotic automated dose delivery, blood and other biofluids sampling and physiological parameters measurement systems enable researchers to quickly and cost effectively determine PK/PD profiles of drugs in large and small animal models. The *Culex*® system allows experiments on freely moving conscious animals from early research for therapeutic target validation to lead optimization of compounds. Using the *Culex*® system, researchers are able to automatically dose and sample in-vivo to develop pharmacokinetic and pharmacodynamic profiles of drugs during early screening in rodents and other animals quickly and cost effectively. Our bioanalytical services group utilizes our depth of expertise in liquid chromatography with detection by mass spectrometry to support research, nonclinical and clinical programs. We also offer bioanalytical services that utilize electrochemistry, spectrophotometric (UV/Vis or fluorescence) and Corona Discharge detection as options. We have invested in robotics and mass spectrometry systems. Application of this technology allows us to rapidly develop and validate methods for new compounds and obtain information suitable for regulatory submission.

2) The **clinical phase** further explores the safety and efficacy of the drug candidate in humans. The sponsor conducts Phase I human clinical trials in a limited number of healthy individuals to determine safety and tolerability. Bioanalytical assays determine the availability and metabolism of the active ingredient following administration. Expertise in method development and validation is critical, particularly for new chemical entities. During the clinical phase of development, additional non-clinical animal studies (including sub-chronic and chronic toxicology studies, carcinogenicity studies, reproductive toxicology studies, etc.) will be performed to allow the drug to be taken into the next clinical phase, or to product registration.

Exhaustive safety, tolerability and dosing regimens are established in sick patients in Phase II trials. Phase III clinical trials verify efficacy and safety. After successful completion of Phase III trials, the sponsor of the new drug submits a

New Drug Application ("NDA") or Biologics License Application ("BLA") to the FDA requesting that the product be approved for marketing. Early manufacturing demonstrates production of the substance in accordance with FDA Good Manufacturing Practices ("GMP") guidelines. Data are compiled in an NDA, or for biotechnology products a BLA, for submission to the FDA requesting approval to market the drug or product. The bioanalytical sample count per study grows rapidly from Phase I through Phase III. Phase II and III studies may take several years to complete, supported by well-proven and consistently applied analytical methods.

Our services include evaluation of bioequivalence and bioavailability to monitor the rate and extent to which a drug is available in the body and to demonstrate that the availability is consistent between formulations. We also offer in-vitro bioequivalence testing for non-absorbed oral drugs. We offer support and testing services in clinical sample development, release and stability.

3) The ***Post-approval phase*** follows FDA approval of the NDA or BLA. This includes production and continued analytical and clinical monitoring of the drug. The post-approval phase also includes development and regulatory approval of product modifications and line extensions, including improved dosage forms. The drug manufacturer must comply with quality assurance and quality control requirements throughout production and must continue analytical and stability studies of the drug during commercial production to continue to validate production processes and confirm product shelf life. Samples from each manufactured batch must be tested prior to release of the batch for distribution to the public.

We also provide services during the post-approval phase, including bioequivalence studies of new formulations, line extensions, new disease indications and drug interaction studies. Our ability to offer GMP electrochemical detection services has provided increased business opportunities for release testing.

Increases in our services offerings have resulted in our ability to provide a broader range of services to our clients, often using combined services of several disciplines to address program needs. Our ability to solve problems by combining our knowledge base, services and products has been a factor in our selection by major pharmaceutical companies to assist in several preclinical through post-approval phases.

## Company Services and Products

### Overview

We focus on developing innovative services and products that increase efficiency and reduce costs associated with taking new drugs to market. We operate in two business segments – contract research services and research products, both of which address the bioanalytical, nonclinical, and clinical research needs of drug developers. Both segments arose out of our expertise in a number of core technologies designed to quantify trace chemicals in complex matrices.

### Contract Research Services

The contract research services segment provides screening and pharmacological testing, nonclinical safety testing, formulation development, regulatory compliance and quality control testing. Revenues from the contract research services segment were \$22.4 million for fiscal 2018. The following is a description of the services provided by our contract research services segment:

***Analytical Method Development and Validation:*** Analytical methods, primarily performed in West Lafayette, Indiana and St. Louis, Missouri, are validated to ensure that data generated are accurate, precise, reproducible and reliable and are used consistently throughout the drug development process and in later product support. Both early-stage, fit-for-purpose discovery methods and fully GLP-validated methods are generated to provide appropriate and timely responses to the client's situation.

***Drug Metabolism, Bioanalysis, and Pharmacokinetics Testing:*** We analyze samples from in vitro, preclinical and clinical studies to measure drug and metabolite concentrations in complex biological matrices. Drug metabolism, bioanalysis and pharmacokinetics studies are performed at our facilities in St. Louis and West Lafayette, Indiana.

**Stability Testing:** We test stability of drug dosing formulations and collected bioanalysis samples to ensure the integrity of all solutions used in nonclinical and clinical studies and post-study analyses. Results from sample shipping and storage studies assist our clients in maintaining sample integrity throughout the process from collection to analysis.

**In Vivo Pharmacology:** We provide preclinical *in vivo* sampling services for the continuous monitoring of chemical changes in life, in particular, how a drug enters, travels through, and is metabolized in living systems. Those services are performed in customized facilities in St. Louis and West Lafayette using our robotic *Culex*® APS (Automated Pharmacology System). In addition, we conduct selected focused animal pharmacology studies evaluating efficacy of new drugs at our facility in St. Louis.

**Non-clinical and Pathology Services:** We provide pharmacokinetic and safety testing in studies ranging from acute safety monitoring of drugs and medical devices to chronic, multi-year oncogenicity studies in our St. Louis and Evansville sites. Our capabilities in toxicologic pathology and evaluation of tissues from animal efficacy models are located in our St. Louis site.

**Archiving Services:** We provide climate-controlled archiving services for our clients' data and samples at all of our facilities.

### Research Products

We focus our products business on expediting preclinical screening of developmental drugs. We compete in small niches of the multibillion-dollar analytical instrument industry. The products business targets unique niches in life science research. We design, develop, manufacture and market state-of-the-art:

- *In vivo* sampling systems and accessories (including disposables, training and systems qualification)
- Physiology monitoring tools
- Liquid chromatography and electrochemistry instruments platforms

Revenues for our products segment were \$3.9 million for fiscal 2018. We offer two (2) principal product lines: Analytical Products and *In vivo* Sampling Products. The following is a brief description of the products offered:

**Analytical Products:** Analytical products consist of our liquid chromatographic and electrochemical instruments with associated accessories. The critical component of these products is the Epsilon® electrochemical platform. This platform incorporates all the hardware capabilities needed for most electrochemical experiments but can be modified through software development. The market for our analytical products is comprised principally of academic institutions and industrial research companies.

***In vivo* Sampling Products:** *In vivo* sampling products consist of the *Culex*® family of automated *in vivo* sampling and dosing instruments. These instruments are used by pharmaceutical researchers to dose animals and collect biological samples (blood, bile, urine, microdialysate, feces or any bio-fluid) from the animals. Since dosing and sample collections are automated, animals are not manually handled, reducing stress on the animals and producing more representative pharmacological data. Behavior and other physiological parameters can also be monitored simultaneously. Compared to manual methods, the *Culex*® products offer significant reduction in test model use and comparable reduction in labor. The line also includes *in vivo* sampling devices sold to drug developers and medical research centers to assist in the study of a number of medical conditions including stroke, depression, Alzheimer's and Parkinson's diseases, diabetes and osteoporosis.

**Vetronics' Products:** Vetronics' products consist of instruments and related software to monitor and diagnose cardiac function (electro-cardiogram) and measure other vital physiological parameters primarily in cats and dogs in veterinary clinics. In late fiscal 2014, we began shifting our market focus and no longer actively market the Vetronics' product offering. Through fiscal 2017, we continued to service units in the field. On June 30, 2018, we discontinued sales and support of this line of products.

### Customers

We have regularly provided our services and/or products to most of the top 25 pharmaceutical companies in the world, as ranked by the number of research and development projects. Approximately 15% of our revenues were generated

from customers outside of North America in fiscal 2018 and 2017, respectively.

In fiscal 2018 our Services group continued its presence at several important existing customers. In fiscal 2018, one customer accounted for approximately 11.2% of total sales and 4.0% of total trade accounts receivable at September 30, 2018. In fiscal 2017 this customer accounted for approximately 13.1% of total sales and 5.2% of total trade accounts receivable at September 30, 2017. The customer discussed is included in our Services segment. There can be no assurance that our business will move away from dependence upon a limited number of customer relationships.

### **Sales and Marketing**

We promote our services through concentrated business development efforts, scientist-to-scientist communications and centralized corporate marketing programs and social media to both large and small pharmaceutical and biotechnology companies, as well as academic and government research institutions. We recognize that our growth depends upon our ability to continually improve client satisfaction in order to deepen existing, and create new, client relationships.

Our sales and global marketing initiatives include integrated campaigns designed to help differentiate and promote our products and services. Through trade events, online and print advertising in trade publications, direct communication, newsletters, social media and our website, we provide our perspective on current industry challenges and developments to create an ongoing dialogue with our customers and to promote our industry expertise, quality, technology and innovation. We reinforce key messages and selling points through client visits, presentations, corporate material and at trade events and industry conferences.

We encourage and sponsor the participation of our scientific and technical personnel in a variety of professional endeavors, including via speaking engagements, the presentation of papers at national and international professional trade meetings and the publication of scientific articles in medical and pharmaceutical journals. Through these endeavors we seek to further our reputation for professional excellence.

As of September 30, 2018, in addition to our leadership team and scientists, we had 11 employees on our global sales and marketing staff focused on both our Services and Products business segments. We have a network of 16 established distributors covering Japan, the Pacific Basin, South America, the Middle East, India, South Africa and Eastern Europe. All of our distributor relationships are managed from our corporate headquarters in West Lafayette, Indiana.

### **Contractual Arrangements**

Our service contracts typically establish an estimated fee to be paid for identified services. In most cases, some percentage of the contract costs is paid in advance. While we are performing a contract, customers often adjust the scope of services to be provided based on interim project results. Fees are adjusted accordingly. Generally, our fee-for-service contracts are terminable by the customer upon written notice of 30 days or less for a variety of reasons, including the customer's decision to forego a particular study, the failure of product prototypes to satisfy safety requirements, and unexpected or undesired results of product testing. Cancellation or delay of ongoing contracts may result in fluctuations in our quarterly and annual results. We are generally able to recover, at minimum, our invested costs when contracts are terminated.

Our products business offers both annual and multi-year service and maintenance agreements on many of our product lines.

### **Competition**

Services

We compete with in-house research, development, quality control and other support service departments of pharmaceutical and biotechnology companies as well as other Contract Research Organizations ("CROs") that compete in this industry. Several of our competitors have significantly greater financial resources than we do. The largest CRO competitors offering similar research services include:

- Covance, Inc. now part of LabCorp;
- Pharmaceutical Product Development, Inc.;
- Charles River Laboratories, Inc.; and
- Quintiles Transnational Holdings, Inc.

CROs generally compete on:

- regulatory compliance record;
- reputation for on-time quality performance;
- quality systems;
- previous experience;
- medical and scientific expertise in specific therapeutic areas;

- scientist-to-scientist relationships;
- quality of contract research;
- financial viability;
- database management;
- statistical and regulatory services;
- ability to recruit investigators;
- ability to integrate information technology with systems to optimize research efficiency;
- quality of facilities;
- international presence with strategically located facilities; and
- price.

### Products

Though many global analytical instruments competitors exist, we have a long-standing network of customers who are repeat buyers and recommend our products. In contrast, there are few competitors for our *in vivo* sampling products. The primary market is large pharmaceutical research departments and academic research institutions. Our differentiators are high quality, flexibility to meet customers' specific needs and superior technical support and service. We provide equipment that enables our customers to attain premium scientific laboratory information on a reasonable operating investment. As customers' needs constantly change, we continually refine our products and develop new products which meet our operating objectives.

### **Government Regulation**

We are subject to various regulatory requirements designed to ensure the quality and integrity of our data and products. These regulations are promulgated primarily under the Federal Food, Drug and Cosmetic Act, and include Good Laboratory Practice ("GLP"), Good Manufacturing Practice ("GMP"), Bioequivalence regulations ("BE") and Good Clinical Practice ("GCP") guidelines administered by the FDA. The standards of GLP, GMP, BE and GCP are required by the FDA and by similar regulatory authorities around the world. These requirements demand rigorous attention to employee training; detailed documentation; equipment validation; careful tracking of changes and routine auditing of compliance. Noncompliance with these standards could result in disqualification of project data collected by the Company. Material violations of GLP, GMP, BE or GCP regulations could result in regulatory sanctions and, in severe cases, could also result in a discontinuance of selected operations. Since our formation, we have been inspected, on a routine basis, by the FDA seventeen times. The FDA has inspected our West Lafayette location fourteen times and our Evansville location six times. Of the twenty FDA inspections, thirteen were without findings. Where the FDA had findings, which have not been significant to our operations, we have taken actions to address the findings and the FDA has informed us that it deemed the actions taken as acceptable.

We are also subject to, and required to comply with, regulations from the Environmental Protection Agency (“EPA”). The EPA has inspected the West Lafayette location twice. Both inspections ended without findings.

We have not experienced any significant problems to date in complying with the regulations of the FDA and EPA and do not believe that any existing or proposed regulations will require material capital expenditures or changes in our method of operation.

Analytical Services

Laboratories that provide information included in INDs, NDAs and BLAs must conform to regulatory requirements that are designed to ensure the quality and integrity of the testing process. Most of our contract research services are subject to government standards for laboratory practices that are embodied in regulations for GLP, GMP, BE and GCP. The FDA, EPA and other regulatory authorities require that test results submitted to such authorities be based on studies conducted in accordance with the regulations listed above. These requirements include but are not restricted to the following areas:

- Resources – organization, personnel, facilities and equipment;
- Rules – protocols and written procedures;

Characterization – test items and test systems;  
Documentation – raw data, final report and archives; and  
Quality assurance unit – formalized internal audit function.

We must also maintain reports for each study for specified periods for auditing by the study sponsor and by the FDA or similar regulatory authorities in other parts of the world. Noncompliance with these regulations can result in the disqualification of data collected during the preclinical trial.

### Nonclinical Services

Our animal research facilities are subject to a variety of federal and state laws and regulations, including The Animal Welfare Act and the rules and regulations enforced by the United States Department of Agriculture ("USDA") and the National Institutes of Health ("NIH"). These regulations establish the standards for the humane treatment, care and handling of animals by dealers and research facilities. Our animal research facilities maintain detailed standard operating procedures and other documentation necessary to comply with applicable regulations for the humane treatment of the animals in our custody. In addition to being licensed by the USDA as a research facility, we are also accredited by the Association for Assessment and Accreditation of Laboratory Animal Care International and have registered assurance with the NIH.

### Quality Assurance and Information Technology

To ensure compliance with applicable regulations, we have established quality assurance programs at our facilities, which include auditing of test data, personnel training, review of procedures and regular inspection of facilities. Regulatory guidelines serve as a basis for our Standard Operating Procedures ("SOPs") where applicable. On an ongoing basis, we endeavor to standardize SOPs across all relevant operations. We have both developed and purchased software to ensure compliant documentation, handling and reporting of laboratory-generated study data.

We adhere to 21 CFR Part 11 (FDA regulations on electronic records and electronic signatures that define the criteria under which electronic records and electronic signatures are considered to be trustworthy, reliable and equivalent to paper records). Our contract research operations were compliant with applicable U.S. FDA regulations (including 21 CFR Part 11) in our analytical, bioanalytical, toxicology, laboratory information management, and document management systems. Systems compliant with 21 CFR Part 11 were formally validated and released for use in regulated studies.

We manage our business systems through the use of an Enterprise Resource Planning ("ERP") system. We are continually refining and adjusting our ERP system to improve efficiency, provide better management tools and address changes in our business. These changes are appropriately documented and tested before implementation. We also test these systems in connection with management's annual review of our internal control systems. Management's assessment and report on disclosure controls and procedures and internal controls over financial reporting is included in Item 9A.

*Controlled, Hazardous, and Environmentally Threatening Substances*

Some of our development and testing activities are subject to the Controlled Substances Act administered by the Drug Enforcement Agency ("DEA"), which strictly regulates all narcotic and habit-forming substances. We maintain restricted-access facilities and heightened control procedures for projects involving such substances due to the level of security and other controls required by the DEA. In addition, we are subject to other federal and state regulations concerning such matters as occupational safety and health and protection of the environment.

Our laboratories are subject to licensing and regulation under federal, state and local laws relating to hazard communication and employee right-to-know regulations, the handling and disposal of medical specimens and hazardous waste, as well as the safety and health of laboratory employees. All of our laboratories are subject to applicable federal and state laws and regulations relating to the storage and disposal of laboratory specimens, including regulations of the Environmental Protection Agency, the Department of Transportation, the National Fire Protection Agency and the Resource Conservation and Recovery Act. Although we believe that we are currently in compliance in all material respects with such federal, state and local laws, failure to comply could subject us to denial of the right to conduct business, fines, criminal penalties and other enforcement actions.

The regulations of the U.S. Department of Transportation, the U.S. Public Health Service and the U.S. Postal Service apply to the surface and air transportation of laboratory specimens. Our laboratories also comply with the International Air Transport Association regulations which govern international shipments of laboratory specimens. Furthermore, when materials are sent to a foreign country, the transportation of such materials becomes subject to the laws, rules and regulations of such foreign country.

### Safety

In addition to comprehensive regulation of safety in the workplace, the Occupational Safety and Health Administration has established extensive requirements relating to workplace safety for health care employers whose workers may be exposed to blood-borne pathogens such as HIV and the hepatitis B virus. These regulations, among other things, require work practice controls, protective clothing and equipment, training, medical follow-up, vaccinations and other measures designed to minimize exposure to chemicals, and transmission of blood-borne and airborne pathogens. Relevant employees receive initial and periodic training focusing on compliance with applicable hazardous materials regulations and health and safety guidelines.

### HIPAA

Under the Health Insurance Portability and Accountability Act of 1996 ("HIPAA"), the U.S. Department of Health and Human Services regulates the disclosure of confidential medical information in the United States. We have had a global privacy policy in place since January 2001 and believe that we are in compliance with HIPAA and current European Union requirements regarding confidential medical information. We continue to monitor our compliance with these regulations, and we intend to take appropriate steps to promote compliance as these and other privacy regulations are revised or additional regulations come into effect.

### **Product Liability and Insurance**

We maintain product liability and professional errors and omissions liability insurance, providing coverage on a claims-made basis. Additionally, in certain circumstances, we seek to manage our liability risk through contractual provisions to be indemnified by the customer or covered by the customer's liability insurance policies. Also, in certain types of engagements, we seek to limit our contractual liability to customers to the amount of fees received. Our customer contractual arrangements are subject to negotiation, and the terms and scope of indemnification, liability limitation and insurance coverage vary by customer and project.

## **Research and Development**

In fiscal 2018 and 2017, we spent \$596 and \$465, respectively, on research and development. Separate from our contract research services business, we maintain applications research and development to enhance our products business. Expenditures cover hardware and software engineering costs, laboratory supplies, labor, prototype development and laboratory demonstrations of new products and applications for those products.

## **Intellectual Property**

We believe that our patents, trademarks, copyrights and other proprietary rights are important to our business. Accordingly, we actively seek protection for those rights both in the United States and abroad. Where we deem it to be an appropriate course of action, we will vigorously prosecute patent infringements. The loss of any one or more of our patents, trademarks, copyrights or other proprietary rights could be material to our consolidated revenues or earnings.

We currently hold four U.S. federally registered trademarks. We also have two issued U.S. patents on the Dried Blood Spot (DBS) sampling card for the *Culex*® Automated Blood Sampling Instrumentation. There are also pending international patent applications for this technology in Japan, Canada, and Europe. Additionally, we have three issued U.S. patents for the No Blood Waste technology for the *Culex*® instrument. There are thirteen issued international patents for this technology in Europe, Japan and Canada. There are two additional issued U.S. patents and fifteen issued international patents in Germany, Denmark, Europe, Spain, France, Great Britain, Japan, Sweden, and Switzerland relating to the Ratur® technology which can be used with the *Culex*® system; two issued U.S. patents and one issued Canadian patent relating to pinch valve technology; and thirteen pending international patent applications in Canada, Japan and Europe relating to a tube assembly system that could potentially be used in the *Culex*® system.

Our issued patents are protected for durations ranging from October of 2018 to August of 2037. In addition to these formal intellectual property rights, we rely on trade secrets, unpatented know-how and continuing applications research which we seek to protect through means of reasonable business procedures, such as confidentiality agreements.

### **Raw Materials**

There are no specialized raw materials that are particularly essential to our business. We have a variety of alternative suppliers for the components in our products.

### **Employees**

At September 30, 2018, we had 224 full-time employees and 11 part-time employees. All employees enter into confidentiality agreements intended to protect our proprietary information. We believe that our relations with our employees are good. None of our employees are represented by a labor union. Our performance depends on our ability to attract and retain qualified professional, scientific and technical staff. The level of competition among employers for skilled personnel is high. We believe that our employee benefit plans enhance employee morale, professional commitment and work productivity and provide an incentive for employees to remain with the Company.

### **Executive Officers of the Registrant**

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The following table illustrates information concerning the persons who currently serve as our executive officers. Officers are elected annually at the annual meeting of the board of directors.

<b>Name</b>	<b>Age</b>	<b>Position</b>
John E. Sagartz, DVM, PhD, DACVP	54	Chief Strategy Officer
Jill C. Blumhoff	42	Chief Financial Officer, Vice President-Finance
Philip A. Downing	48	Senior Vice President, Nonclinical Services

**John E. Sagartz, DVM, PhD, DACVP**, joined the Company as part of the Company's acquisition of Seventh Wave Laboratories on July 2, 2018. Following the acquisition, Dr. Sagartz joined BASi's Board of Directors to help guide operations in order to provide broader solutions and greater scientific expertise to the Company's clients. Dr. Sagartz began his career as a toxicologic pathologist at Searle/Monsanto in 1996, and held positions of increasing responsibility as section head, director, preclinical development site head, and fellow, following Monsanto's merger with Pharmacia. After Pfizer's acquisition of Pharmacia in 2003, Dr. Sagartz founded Seventh Wave Laboratories where he served as President and Chief Executive Officer, and Chief Strategy Officer. Dr. Sagartz is an adjunct associate professor of Comparative Medicine at St. Louis University's College of Medicine and serves on the Board of Directors of the Missouri Biotechnology Association. He received his Bachelor of Science and Doctor of Veterinary Medicine degrees from Kansas State University and, after completing residency training in anatomic pathology, earned his Doctor of Philosophy from The Ohio State University.

**Jill C. Blumhoff** joined the Company as Assistant Controller on October 7, 2007 and thereafter was promoted to positions of greater responsibility in the Accounting and Finance area including Director of Financial Reporting and Director of Finance and IT until reaching her present position of Chief Financial Officer and Vice President of Finance on May 11, 2016. She has been responsible for all aspects of financial reporting and disclosure as well as leading the Company's efforts in building the financial support structure at BASi. Ms. Blumhoff held various roles of increasing levels of responsibility in financial reporting and analysis at Wabash National Corporation after beginning her career at Ernst & Young LLP. Ms. Blumhoff received a Bachelor of Science degree in accounting from the University of the Illinois at Urbana-Champaign in 1998.

**Philip A. Downing** has over 22 years of pharmaceutical experience in drug discovery, toxicology/non-clinical and clinical research. Traditionally trained as a bioanalytical chemist, Mr. Downing joined BASi as an analytical chemist in 1997, rapidly moving into leadership positions such as Director of Analytical Services, General Manager, and Sr. Director of Preclinical until reaching his present position as Vice President of Preclinical Services in March of 2015. Prior to joining BASi, Mr. Downing worked at GFi Pharmaceuticals (now Covance Labs – Clinical Division) as an Analytical Scientist and RSO designing and validating radiolabeled and non-radiolabeled assays used to support clinical ADME studies. Mr. Downing earned a Bachelor's Degree in Chemistry and Biology from Indiana University and is a member of the Society of Toxicology, American College of Toxicology and the American Chemical Society.

## **Investor Information**

We file various reports with, or furnish them to, the Securities and Exchange Commission (the "SEC"), including our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to such reports. These reports are available free of charge upon written request or by visiting [www.BASinc.com/invest](http://www.BASinc.com/invest). Inquiries from shareholders, security analysts, portfolio managers, registered representatives and other interested parties including media inquiries should be directed to:

BASi Investor Relations,  
Attn: Jill Blumhoff  
2701 Kent Avenue, West Lafayette, IN 47906 USA  
Phone 765-463-4527, Fax 765-497-1102, [ir@basinc.com](mailto:ir@basinc.com)

## ***ITEM 1A - RISK FACTORS***

### **Risks Related to Our Business**

Our business is subject to many risks and uncertainties, which may affect our future financial performance or condition. If any of the events or circumstances described below occur, our business and financial performance or condition could be adversely affected, our actual results could differ materially from our expectations and the market value of our stock could decline. The risks and uncertainties discussed below are not the only ones we face. There may be additional risks and uncertainties not currently known to us or that we currently do not believe are material that may adversely affect our business and financial performance.

**The loss of our key personnel could adversely affect our business.**

Our success depends to a significant extent upon the efforts of our senior management team and other key personnel. The loss of the services of such personnel could adversely affect our business. Also, because of the nature of our business, our success is dependent upon our ability to attract, train, manage and retain technologically qualified personnel. There is substantial competition for qualified personnel, and an inability to recruit or retain qualified personnel may impact our ability to grow our business and compete effectively in our industry.

**We rely on third parties for important services.**

We have historically depended on third parties to provide us with services critical to our business, including without limitation transportation services. In addition, in September 2016, the Board of Directors engaged, and we continue to rely on the services of, a financial consultant. The failure of third parties to adequately provide needed services or our determination to forgo non-critical services, could have a material adverse effect on our business.

**We have experienced periods of losses on our operating activities.**

Throughout our history we have experienced periods of financial losses and financial hardship. Our current efforts may not result in profitability, or if our efforts result in profits, such profits may not continue for any meaningful period of time. In order to finance the Company's acquisition of Seventh Wave Laboratories, LLC's business and the expansion of BAS Evansville's facilities, we have significantly increased our leverage. Sustained losses may result in our inability to service our financial obligations as they come due, including the additional indebtedness we have incurred to support our growth initiatives, or to meaningfully invest in our business.

**A reduction in research and development budgets at pharmaceutical and biotechnology companies may adversely affect our business.**

Our customers include researchers at pharmaceutical and biotechnology companies. Our ability to continue to grow and win new business is dependent in large part upon the ability and willingness of the pharmaceutical and biotechnology industries to continue to spend on research and development and to purchase the products and outsource the services we provide. Fluctuations in the research and development budgets of these researchers and their organizations could have a significant effect on the demand for our products and services. Research and development budgets fluctuate due to changes in available resources, mergers of pharmaceutical and biotechnology companies, spending priorities and institutional budgetary policies. Our business could be adversely affected by any significant decrease in life sciences research and development expenditures by pharmaceutical and biotechnology companies. Economic factors and industry trends that affect our customers in these industries also affect our business.

**We rely on a limited number of key customers, the importance of which may vary dramatically from year to year, and a loss of one or more of these key customers may adversely affect our operating results.**

Four customers accounted for approximately 32% of our total revenue in fiscal 2018 and eight customers accounted for approximately 49% of our total revenues in fiscal 2017. The loss of a significant amount of business from one of our major customers would materially and adversely affect our results of operations until such time, if ever, as we are able to replace the lost business. Significant customers or projects in any one period may not continue to be significant customers or projects in other periods. In any given year, there is a possibility that a single pharmaceutical company may account for a significant percentage of our total revenue or that our business may be dependent on one or more large projects. Since we do not have long-term contracts with most of our customers, the importance of a single customer may vary dramatically from year to year as projects end and new projects begin. To the extent that we are dependent on any single customer, we are subject to the risks faced by that customer if such risks impede the customer's ability to stay in business and make timely payments to us.

**The majority of our customers' contracts can be terminated upon short notice.**

Most of our contracts for CRO services are terminable by the customer upon 30 days' notice. Customers terminate or delay their contracts for a variety of reasons, including but not limited to:

- products being tested fail to satisfy safety requirements;
- products having undesired clinical results;
- the customer deciding to forego a particular study;

- inability to enroll enough patients in the study;
- inability to recruit enough investigators;
- production problems causing shortages of the drug; and
- actions by regulatory authorities.

Although our contracts frequently entitle us to receive the costs of winding down the terminated projects, as well as all fees earned by us up to the time of termination, and some of our contracts entitle us to a termination fee, the loss, reduction in scope or delay of a large contract or the loss or delay of multiple contracts could materially adversely affect our business.

**Our failure to comply with the terms of our current credit agreement could result in an event of default that could materially adversely affect our business, financial condition and results of operations.**

If there were an event of default under our credit agreement, First Internet Bank could cause all amounts outstanding under that agreement to be due and payable immediately or exercise other available remedies, which may have an adverse impact on our business, financial condition and results of operations. An event of default may occur should our assets or cash flow be insufficient to fully repay borrowings under our credit agreement, whether paid in the ordinary course or accelerated, or if we are unable to maintain compliance with relevant obligations thereunder, including financial and other covenants. In connection with our acquisition of the assets of Seventh Wave Laboratories, LLC and the expansion of our facilities in Evansville, Indiana, we have significantly increased our level of indebtedness, as well as our ability to incur further indebtedness under relevant lines of credit. Our ability to service this indebtedness will depend, in part, on the success of our operations and our ability to generate sufficient cash flow therefrom.

**Changes in government regulation or in practices relating to the pharmaceutical industry could change the demand for the services we provide.**

Governmental agencies throughout the world, but particularly in the United States, strictly regulate the drug development process. Our business involves helping pharmaceutical and biotechnology companies comply with the regulatory drug approval process. Changes in regulation, such as a relaxation in regulatory requirements or the introduction of simplified drug approval procedures, or an increase in regulatory requirements that we may have difficulty satisfying, or that make our services less competitive, could substantially change the demand for our services. Also, if governments increase efforts to contain drug costs and pharmaceutical and biotechnology company profits from new drugs, our customers may spend less, or reduce their growth in spending on research and development.

**We may bear financial risk if we underprice our contracts or overrun cost estimates.**

Since some of our contracts are structured as fixed price or fee-for-service, we bear the financial risk if we initially underprice our contracts or otherwise overrun our cost estimates. Such underpricing or significant cost overruns could have a material adverse effect on our business, results of operations, financial condition, and cash flows.

**Any failure by us to comply with existing regulations could harm our reputation and operating results.**

Any failure on our part to comply with existing regulations could result in the termination of ongoing research or the disqualification of data for submission to regulatory authorities. For example, if we were to fail to properly monitor compliance with study protocols, the data collected could be disqualified. If this were to happen, we may be contractually required to repeat a study at no further cost to the customer, but at substantial cost to us. This would harm our reputation, our prospects for future work and our operating results. Furthermore, the issuance of a notice from the FDA based on a finding of a material violation by us of good clinical practice, good laboratory practice or good manufacturing practice requirements could materially and adversely affect our business and financial performance.

**Our future success depends on our ability to keep pace with rapid technological changes that could make our services and products less competitive or obsolete.**

The biotechnology, pharmaceutical and medical device industries generally, and contract research services more specifically, are subject to increasingly rapid technological changes. Our competitors or others might develop technologies, services or products that are more effective or commercially attractive than our current or future technologies, services or products, or that render our technologies, services or products less competitive or obsolete. If competitors introduce superior technologies, services or products and we cannot make enhancements to ours to remain competitive, our competitive position, and in turn our business, revenues and financial condition, would be materially and adversely affected. Many of our competitors have superior financial and human resources deployed toward research and development efforts. Our relatively constrained financial and human resources may limit our ability to effectively keep pace with relevant technological changes.

**If we are unable to maintain effective internal control over financial reporting or disclosure controls and procedures, the accuracy and timeliness of our financial and other reporting may be adversely affected.**

Maintaining effective internal controls over financial reporting is necessary for us to produce reliable financial statements. Moreover, we must maintain effective disclosure controls and procedures in order to provide reasonable assurance that the information required to be reported in our periodic reports filed with the SEC is recorded, processed, summarized and reported within the time periods specified by the SEC's rules and forms, and that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer (or persons performing equivalent functions), as appropriate to allow timely decisions regarding required disclosure. If we are unable to maintain effective internal controls over financial reporting or disclosure controls and procedures or remediate any material weakness, it could result in a material misstatement of our consolidated financial statements that would require a restatement or other materially deficient disclosures, investor confidence in the accuracy and timeliness of our financial reports and other disclosures may be adversely impacted, and the market price of our common shares could be negatively impacted.

**We operate in a highly competitive industry.**

The CRO services industry is highly competitive. We often compete for business not only with other, often larger and better capitalized, CRO companies, but also with internal discovery and development departments within our customers, some of which are large pharmaceutical and biotechnology companies with greater resources than we have. If we do not compete successfully, our business will suffer. The industry is highly fragmented, with numerous smaller specialized companies and a handful of full-service companies with global capabilities much larger than ours. Increased competition might lead to price and other forms of competition that might adversely affect our operating results. As a result of competitive pressures, our industry experienced consolidation in recent years. This trend is

likely to produce more competition among the larger companies for both customers and acquisition candidates.

**We might incur expense to develop products that are never successfully commercialized.**

We have incurred and expect to continue to incur research and development and other expenses in connection with our products business. The potential products to which we devote resources might never be successfully developed or commercialized by us for numerous reasons, including:

- inability to develop products that address our customers' needs;
- competitive products with superior performance;
- patent conflicts or unenforceable intellectual property rights;
- demand for the particular product; and
- other factors that could make the product uneconomical.

Incurring expenses for a potential product that is not successfully developed and/or commercialized could have a material adverse effect on our business, financial condition, prospects and stock price.

**Providing CRO services creates a risk of liability.**

We could be held liable for errors and omissions in connection with the services we perform. In certain circumstances, we seek to manage our liability risk through contractual provisions with customers requiring us to be indemnified by the customers or covered by the customers' product liability insurance policies. Although many of our customers are large, well-capitalized companies, the financial performance of these indemnities is not secured. Therefore, we bear the risk that the indemnifying party may not have the financial ability, or may otherwise fail, to fulfill its indemnification obligations or the liability would exceed the amount of applicable insurance. There can be no assurance that our insurance coverage will be adequate, or that insurance coverage will continue to be available on acceptable terms, or that we can obtain indemnification arrangements or otherwise be able to limit our liability risk.

**Our business uses biological and hazardous materials, which could injure people or violate laws, resulting in liability that could adversely impact our financial condition and business.**

Our activities involve the controlled use of potentially harmful biological materials, as well as hazardous materials, chemicals and various radioactive compounds. We cannot completely eliminate the risk of accidental contamination or injury from the use, storage, handling or disposal of these materials. In the event of contamination or injury, we could be held liable for damages that result, and any liability could exceed our insurance coverage and ability to pay. Any contamination or injury could also damage our reputation, which is critical to obtaining new business. In addition, we are subject to federal, state and local laws and regulations governing the use, storage, handling and disposal of these materials and specified waste products. The cost of compliance with these laws and regulations is significant and if changes are made to impose additional requirements, these costs could increase and have an adverse impact on our financial condition and results of operations.

**Hardware or software failures, delays in the operations of our computer and communications systems or the failure to implement system enhancements could harm our business.**

Our success depends on the efficient and uninterrupted operation of our computer and communications systems. A failure of our network or data gathering procedures could impede the processing of data, delivery of databases and services, customer orders and day-to-day management of our business and could result in the corruption or loss of data. While we have disaster recovery plans in place for our operations, they might not adequately protect us. Despite any precautions we take, damage from fire, floods, hurricanes, power loss, telecommunications failures, computer

viruses, break-ins and similar events at our computer facilities could result in interruptions in the flow of data to our servers and from our servers to our customers. In addition, any failure by our computer environment to provide our required data communications capacity could result in interruptions in our service. In the event of a delay in the delivery of data, we could be required to transfer our data collection operations to an alternative provider of server hosting services. Such a transfer could result in delays in our ability to deliver our products and services to our customers. Additionally, significant delays in the planned delivery of system enhancements, improvements and inadequate performance of the systems once they are completed could damage our reputation and harm our business. Finally, long-term disruptions in the infrastructure caused by events such as natural disasters, the outbreak of war, the escalation of hostilities and acts of terrorism, particularly involving cities in which we have offices, could adversely affect our businesses. Although we carry property and business interruption insurance, our coverage might not be adequate to compensate us for all losses that may occur.

**Our animal populations may suffer diseases that can damage our inventory, harm our reputation, result in decreased sales of our services or research products or result in other liability to us.**

It is important that our animal populations be free of diseases, including infectious diseases. The presence of diseases can distort or compromise the quality of research results, can cause loss of animals in our inventory, can result in harm to humans or outside animal populations if the disease is not contained to animals in inventory, or can result in other losses. Such results could harm our reputation or have a material adverse effect on our financial condition, results of operations, and cash flows.

**Our products business depends on our intellectual property.**

Our products business is dependent, in part, on our ability to obtain patents in various jurisdictions on our current and future technologies and products, to defend our patents and protect our trade secrets and to operate without infringing on the proprietary rights of others. There can be no assurance that our patents will not be challenged by third parties or that, if challenged, those patents will be held valid. In addition, there can be no assurance that any technologies or products developed by us will not be challenged by third parties owning patent rights and, if challenged, will be held not to infringe on those patent rights. The expense involved in any patent litigation can be significant. We also rely on unpatented proprietary technology, and there can be no assurance that others will not independently develop or obtain similar products or technologies.

**We may expand our business through acquisitions, which could expose us to various risks.**

We review acquisition candidates as part of our continuing business strategy. Factors which may affect our ability to effectively pursue acquisition targets or to grow successfully through completed acquisitions include:

- inability to obtain financing;
- difficulties and expenses in connection with integrating the acquired companies and achieving the expected benefits;
- diversion of management's attention from current operations;
- the possibility that we may be adversely affected by risks facing the acquired companies;
- acquisitions could be dilutive to earnings, or in the event of acquisitions made through the issuance of our common shares to the shareholders of the acquired company, dilutive to the percentage ownership of our existing stockholders;
- potential losses resulting from undiscovered liabilities of acquired companies not covered by the indemnification we may obtain from the seller;
- loss of key employees of the acquired companies; and
- loss of key customers.

**We depend on the pharmaceutical and biotechnology industries.**

We believe that due to the significant investment in facilities and personnel required to support drug development, pharmaceutical and biotechnology companies look to outsource some or all of those services. By doing so, they can focus their resources on their core competency of drug discovery, while obtaining the outsourced services from a full-service provider like us. Our revenues depend greatly on the expenditures made by these pharmaceutical and biotechnology companies in research and development. In some instances, companies in these industries are reliant on their ability to raise capital in order to fund their research and development projects and to compensate us for services rendered. Accordingly, economic factors and industry trends that affect our customers in these industries also affect our business. If companies in these industries were to reduce the number or scope of research and development projects they conduct or outsource, our business could be materially adversely affected.

**Unfavorable general economic conditions may materially adversely affect our business.**

While it is difficult for us to predict the impact of general economic conditions on our business, these conditions could reduce customer demand for some of our products or services, which could cause our revenue to decline. Also, our customers, particularly smaller biotechnology companies which are especially reliant on the credit and capital markets, may not be able to obtain adequate access to credit or equity funding, which could affect their ability to make timely payments to us. Moreover, we rely on credit facilities to provide working capital to support our operations and regularly evaluate alternative financing sources. Changes in the commercial credit market or in the financial stability of our creditors may impact the ability of our creditors to provide additional financing. In addition, the financial condition of our credit facility providers, which is beyond our control, may adversely change. Any decrease in our access to borrowings under our credit facility or successor facilities (if any), tightening of lending standards and other changes to our sources of liquidity could adversely impact our ability to obtain the financing we need to continue operating the business in our current manner. For these reasons, among others, if economic conditions stagnate or decline, our operating results and financial condition could be adversely affected.

**Privacy regulations could increase our costs or limit our services.**

U.S. Department of Health and Human Services regulations under the Health Insurance Portability and Accountability Act of 1996 demand compliance with patient privacy and confidentiality requirements. In addition, some state governments are considering more stringent regulations. In addition, the General Data Protection Regulation (GDPR), which became effective in May 2018, imposes heightened obligations on businesses that control and manage the personal data of E.U. citizens. These and similar regulations might require us to increase our investment in security or limit the services we offer. We could be found liable if we fail to meet existing or proposed regulations on privacy and security of health information.

**We could experience a breach of the confidentiality of the information we hold or of the security of our computer systems.**

We operate large and complex computer systems that contain significant amounts of client data. As a routine element of our business, we collect, analyze, and retain substantial amounts of data pertaining to the clinical and non-clinical studies we conduct for our clients. Unauthorized third parties could attempt to gain entry to such computer systems for the purpose of stealing data or disrupting the systems. We believe that we have taken appropriate measures to protect them from intrusion, and we continue to improve and enhance our systems in this regard, but in the event that our efforts are unsuccessful, we could suffer significant harm. Our contracts with our clients typically contain provisions that require us to keep confidential the information generated from these studies. In the event the confidentiality of such information was compromised, we could suffer significant harm.

**Risks Related to Share Ownership**

**Our share price could be volatile and our trading volume may fluctuate substantially.**

The market price of our common shares has historically experienced and might continue to experience volatility. Many factors could have a significant impact on the future price of our common shares, including:

- our failure to successfully implement our business objectives;
- compliance with ongoing regulatory requirements;
- market acceptance of our products;
- technological innovations, new commercial products or drug discovery efforts and preclinical and clinical activities by us or our competitors;
- changes in government regulations;
- general economic conditions and other external factors;
- actual or anticipated fluctuations in our quarterly financial and operating results;
- the degree of trading liquidity in our common shares; and
- our ability to meet the minimum standards required for remaining listed on the NASDAQ Capital Market.

These factors also include ones beyond our control, such as market conditions within our industry and changes in pharmaceutical and biotechnology industries. In addition, in recent years, the stock market has experienced significant price and volume fluctuations. The stock market, and in particular the market for pharmaceutical and biotechnology company stocks, has also experienced significant decreases in value in the past. This volatility and valuation decline have affected the market prices of securities issued by many companies, often for reasons unrelated to their operating performance, and might adversely affect the price of our common shares.

**Anti-takeover provisions in our organizational documents and Indiana law may discourage or prevent a change in control, even if a sale of the Company would be beneficial to our shareholders, which could cause our stock price to decline and prevent attempts by shareholders to replace or remove our current management.**

Our Second Amended and Restated Articles of Incorporation and Second Amended and Restated Bylaws contain provisions that may delay or prevent a change in control, discourage bids at a premium over the market price of our common shares, harm the market price of our common shares, and diminish the voting and other rights of the holders of our common shares. These provisions include:

- dividing our board of directors into three classes serving staggered three-year terms;
- authorizing our board of directors to issue preferred stock and additional common shares without shareholder approval;
- requiring one or more written demands signed and dated by holders of at least 25% of all the votes entitled to be cast on any issue proposed to be considered at a special meeting for shareholders to call a special meeting;
- prohibiting our shareholders from amending our Second Amended and Restated Bylaws; and
- requiring advance notice for nominating directors at shareholders' meetings

Our board of directors also has the ability, should they so determine, to adopt a shareholder rights agreement, sometimes called a "poison pill," providing for the issuance of a new series of preferred stock to holders of common shares. In the event of a takeover attempt, this preferred stock would give rights to holders of common shares (other than the potential acquirer) to buy additional shares of common shares at a discount, leading to the dilution of the potential acquirer's stake. The adoption of a poison pill, or the board's ability to do so, can have negative effects such as those described above.

As an Indiana corporation, we are governed by the Indiana Business Corporation Law (as amended from time to time, the "IBCL"). Under specified circumstances, certain provisions of the IBCL related to control share acquisitions, business combinations, and constituent interests may delay, prevent, or make more difficult unsolicited acquisitions or changes of control of us. These provisions also may have the effect of preventing changes in our management. It is possible that these provisions could make it more difficult to accomplish transactions that shareholders might deem to be in their best interest.

**If we are unable to maintain listing of our securities on the NASDAQ Capital Market or another reputable stock exchange, it may be more difficult for the Company's shareholders to sell their securities.**

NASDAQ requires listing issuers to comply with certain standards in order to remain listed on its exchange. If, for any reason, NASDAQ should delist the Company's securities from trading on its exchange and the Company is unable to obtain listing on another reputable national securities exchange, a reduction in some or all of the following may occur, each of which could materially adversely affect our shareholders:

- the liquidity of our common shares;
- the market price of our common shares;
- our ability to obtain financing for the continuation of our operations;
- the number of institutional and general investors that will consider investing in our common shares;

- the number of market makers in our common shares;
- the availability of information concerning the trading prices and volume of our common shares; and
- the number of broker-dealers willing to execute trades in shares of our common shares

**There is no public market for the Series A preferred shares.**

There is no established public trading market for the Series A preferred shares that were sold May 11, 2011, and we do not expect a market to develop. In addition, we have not and do not intend to apply to list the Series A preferred shares on any securities exchange. Without an active market, the liquidity of these securities is limited.

**We have never paid cash dividends and currently do not intend to do so.**

We have never declared or paid cash dividends on our common shares. We currently plan to retain any earnings to finance the growth of our business rather than to pay cash dividends. Payments of any cash dividends in the future will depend on our financial condition, results of operations and capital requirements, as well as other factors deemed relevant by our board of directors.

**Risks Related to our Acquisition of the Assets of Seventh Wave Laboratories, LLC**

**The Company may fail to realize the anticipated strategic and financial benefits currently anticipated from the acquisition.**

We may not realize all of the anticipated benefits of the Seventh Wave Laboratories, LLC acquisition, we may not further our business strategy as we expect, we may fail to realize the synergies and other benefits we expect from the acquisition or we may otherwise not realize the expected return on our investment, any one of which outcomes could adversely affect our business or operating results and potentially cause impairment to assets that would be recorded as a part of the acquisition, including intangible assets and goodwill.

**Our due diligence of Seventh Wave Laboratories, LLC may not have identified all pertinent risks, which could materially affect our business, financial condition, liquidity and results of operations.**

As part of our due diligence, we utilized information provided by the sellers. As is true with any transaction of this nature, there can be no guarantee that we are aware of all liabilities of the acquired business. Potential incremental liabilities and additional risks and uncertainties related to the acquired business not known or fully appreciated by us could negatively impact our future business, financial condition and results of operations.

**The acquisition of the assets of Seventh Wave Laboratories, LLC poses certain incremental risks to the Company.**

The incremental risks posed by the acquisition of the assets of Seventh Wave Laboratories, LLC include, but are not limited to:

- The diversion of management's attention from the management of daily operations to various integration activities;
- The potential need to address relevant internal control over financial reporting and disclosure control and procedures matters;
- Possible deficiencies in operational processes and procedures;
  - Possible unanticipated, significant expenses related to integration;
  - Risks associated with carrying a relatively significant level of debt in a cyclical business;
  - The potential for disruption to prior operations and plans;
  - The assimilation and retention of employees, including key employees;

- The ability of our management team to manage expanded operations to meet operational and financial expectations;
- The integration of departments and systems, including accounting systems, technologies, books and records and procedures; and
- The potential loss of, or adverse effects on, existing business relationships that the Seventh Wave Laboratories, LLC business has with suppliers and customers.

### ***ITEM 1B - UNRESOLVED STAFF COMMENTS***

Not applicable.

### ***ITEM 2 - PROPERTIES***

We operate in the following locations, all of which we own, except as otherwise indicated:

- **Our principal executive offices** are located at 2701 Kent Avenue, West Lafayette, Indiana 47906, with approximately 120,000 total square feet of operations, manufacturing, administrative space and leased space, which leased space comprises approximately 50,000 square feet of the total. Both the contract research services segment and the products segment conduct operations at this facility. The building has been financed by mortgages.
- **BAS Evansville Inc.**'s operations are located in Evansville, Indiana. We occupy 10 buildings with roughly 92,000 square feet of operating and administrative space on 52 acres. Most of this site is engaged in nonclinical toxicology testing of developmental drugs in animal models. The contract research services segment conducts operations at this facility. In October 2018, we began an expansion project which will add approximately 12,000 square feet of testing space.
- **Seventh Wave Laboratories, LLC**'s operations are located in Maryland Heights, MO. We occupy 1 building with roughly 50,000 square feet of operating and administrative space. Most of this site is engaged in contract research services. This building is leased. We also rent space at Saint Louis University for contract research services testing development drugs in animal models.

We believe that our facilities are adequate for our current operations and that suitable additional space will be available if and when needed, including to the extent necessary to expand operations. The terms of any mortgages and

leases for the above properties are detailed in Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations, and Notes 6 and 7 to the Notes to Consolidated Financial Statements.

***ITEM 3 - LEGAL PROCEEDINGS***

We are involved from time to time in claims, lawsuits, and government proceedings relating to our operations. We may also be subject to other claims and potential claims, including those relating to product and general liability, workers' compensation and employment-related matters. The ultimate outcome of claims, lawsuits, and proceedings cannot be predicted with certainty. However, we do not currently believe that we are party to any material pending legal proceedings.

***ITEM 4 - MINE SAFETY DISCLOSURES***

Not applicable.

**PART II**

***ITEM 5 - MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES***

*Market Information*

As of September 30, 2018, our common shares were traded on the NASDAQ Capital Market under the symbol "BASi".

*Holder*s

There were approximately 2,700 holders of record of our common shares as of December 14, 2018.

*Dividends*

We did not pay any cash dividends on our common shares in fiscal years 2018 or 2017 and do not anticipate paying cash dividends in the foreseeable future. Dividends paid on our Series A preferred shares are discussed in Note 3 to the Notes to Consolidated Financial Statements.

***ITEM 6 - SELECTED FINANCIAL DATA***

Not applicable.

**ITEM 7 - MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS**

*The following discussion and analysis should be read in conjunction with the Consolidated Financial Statements and notes thereto included or incorporated by reference elsewhere in this Report. In addition to the historical information contained herein, the discussions in this Report may contain forward-looking statements that may be affected by risks and uncertainties, including those discussed in Item 1A, Risk Factors. Our actual results could differ materially from those discussed in the forward-looking statements. Please refer to page 1 of this Report for a cautionary statement regarding forward-looking information.*

*References to years or portions of years in this Item refer to our fiscal year ended September 30, unless otherwise indicated. The following amounts are in thousands unless otherwise indicated.*

**Recent Developments**

Over the last five months, we acquired the business of Seventh Wave Laboratories, LLC, commenced the expansion of our facilities in Evansville, Indiana, and obtained funding to support these initiatives in order to support future growth and enhance our scientific capabilities, client service offering and client experience.

On July 2, 2018, we acquired substantially all of the assets of Seventh Wave Laboratories LLC, a consulting-based contract research laboratory located in Maryland Heights, Missouri providing integrated services for discovery and preclinical drug development, under the terms and conditions of an Asset Purchase Agreement, dated July 2, 2018 (the "Acquisition"). In connection with the Acquisition, on July 2, 2018 the Company and First Internet Bank entered into an amendment to the Company's credit arrangements. Refer to Note 11 to the Consolidated Financial Statements for additional information. We anticipate capitalizing on the collective skill sets, expertise and assets acquired via the Acquisition to expand our service offerings and reach additional clients.

On September 28, 2018, we entered into a further amendment to our credit arrangements which will provide lines of credit for borrowings of up to \$4,445 for construction financing and \$1,429 for future equipment acquisitions. In October 2018, we signed a contract to begin construction of approximately 12,000 feet of expanded laboratory space at our Evansville facility. The space is projected to be completed by September of 2019.

We are working on the integration of the combined businesses and further development of sales and marketing resources. We will continue to evaluate additional opportunities for internal and external growth opportunities and new services to provide to existing clients.

## **Business Overview**

We are a contract research organization (CRO) providing drug discovery and development services. The Company has been involved in the research and development of drugs in numerous therapeutic areas for over 40 years. Our clients and partners include pharmaceutical, biotechnology, academic and governmental organizations. We apply innovative technologies and products and a commitment to quality to help clients and partners accelerate the development of safe and effective therapeutics and maximize the returns on their research and development investments. We offer an efficient, variable-cost model to complement our clients' internal product development programs. Outsourcing development work to reduce overhead and speed drug approvals through the U.S. Food and Drug Administration ("FDA") is an established alternative to in-house pharmaceutical development. We derive our revenues from sales of our research services and drug development tools, both of which are focused on determining drug safety and efficacy.

We support the preclinical and clinical development needs of researchers and clinicians for small molecule, peptide and large molecule drug candidates. Our scientists have the skills in analytical instrumentation development, chemistry, computer software development, pathophysiology, medicine, analytical chemistry and toxicology to make the services and products we provide increasingly valuable to our current and potential clients. Our principal clients are scientists engaged in analytical chemistry, drug safety evaluation, clinical trials, drug metabolism studies, pharmacokinetics and basic research at many small start-up biotechnology companies and the largest global pharmaceutical companies.

Our business is largely dependent on the level of pharmaceutical and biotechnology companies' efforts in new drug discovery and approval. Our contract research services segment is a direct beneficiary of these efforts, through outsourcing by these companies of research work. Our products segment is an indirect beneficiary of these efforts, as increased drug development leads to capital expansion, providing opportunities to sell the equipment we produce and the consumable supplies that support our products.

Developments within the industries we serve have a direct, and sometimes material, impact on our operations. Currently, many large pharmaceutical companies have major "block-buster" drugs that are nearing the end of their patent protections. This puts significant pressure on these companies to both develop new drugs with large market penetration, and to re-evaluate their cost structures and the time-to-market of their products. CROs have benefited from these developments, as the pharmaceutical industry has turned to out-sourcing in order to reduce fixed costs and increase the speed of research and data development necessary for new drug applications. The number of significant drugs that have reached or are nearing the end of their patent protection has also benefited the generic drug industry. Generic drug companies provide a significant source of new business for CROs as they develop, test and manufacture their generic compounds.

We also believe that the development of innovative new drugs is evolving, evidenced by the significant reduction of expenditures on research and development at several major international pharmaceutical companies, accompanied by increases in outsourcing and investments in smaller start-up companies that are performing the early development work on new compounds. Many of these smaller companies are funded by either venture capital or pharmaceutical investment, or both, and generally do not build internal staffs that possess the extensive scientific and regulatory skills required to perform the various activities necessary to progress a drug candidate to the filing of an Investigative New Drug application with the FDA.

A significant portion of innovation in the pharmaceutical industry is now being driven by biotech and small, venture capital funded drug discovery companies. Many of these companies are "single-molecule" entities, whose success depends on one innovative compound. While several biotech companies have reached the status of major pharmaceuticals, the industry is still characterized by smaller entities. These discovery companies generally do not have the resources to perform much of the research within their organizations, and are therefore dependent on the CRO industry for both their research and for preparing their FDA submissions. These companies have provided significant new opportunities for the CRO industry, including us. They do, however, provide business development challenges, as they frequently have only one or a few products in development, which causes CROs to be unable to develop a flow of projects from a single company. These companies may expend all their available funds and cease operations prior to fully developing a product. Additionally, the funding of these companies is subject to investment market fluctuations, which changes as the risk profiles and appetite of investors change.

While continuing to maintain and develop our relationships with large pharmaceutical companies, we intend to aggressively promote our services to developing businesses, which will require us to expand our existing capabilities to provide services early in the drug discovery and development phases, and to consult with customers on regulatory

strategy and compliance leading to their FDA filings. Our Enhanced Drug Discovery services, part of this strategy, utilizes our proprietary Culex® technology to provide early experiments in our laboratories that previously would have been conducted in the sponsor's facilities. As we move forward, we must balance the demands of the large pharmaceutical companies with the personal touch needed by smaller companies to develop a competitive advantage. We intend to accomplish this through the use of and expanding upon our existing project management skills, strategic partnerships and relationship management.

Research services are capital intensive. The investment in equipment, facilities and human capital to serve our markets is substantial and continuing. Rapid changes in automation, precision, speed and technologies necessitate a constant investment in equipment and software to meet market demands. Market opportunities may also prompt investment in upkeep or expansion of our equipment and facilities and investment in human capital. For example, in November 2017 we are in the process of expanding our toxicology facility in Mt. Vernon, Indiana, near Evansville and in July 2018 we closed the Acquisition. We are also impacted by the heightened regulatory environment and the need to improve our business infrastructure to support our operations, which will necessitate additional capital investment. Our ability to generate capital to reinvest in our capabilities through operations and to obtain additional capital if and as needed through financial transactions, is critical to our success. Sustained growth will require additional investment in future periods. Continued positive cash flow and access to capital will be important to our ability to make such investments.

## Executive Summary

In fiscal 2017 we changed leadership and direction and focused on improving the balance sheet, improving liquidity, refinancing our credit arrangements, creating a positive environment and culture, stabilizing employee turnover and developing a vision for the future. These efforts resulted in significantly improved earnings and cash flow in fiscal 2017 versus 2016. In 2018, we were able to see the new vision start to come to fruition as we addressed deferred maintenance issues, made strategic investments in new equipment, recruited critical leadership positions and scientists and obtained additional financing which allowed us to complete an acquisition which we had been working on for over a year. In fiscal 2018, we also increased our investment in research and development for specific products and restarted the discovery lab in West Lafayette. We completed planning and obtained funding for a major expansion for the Evansville facility. We expect this expansion to be complete by the beginning of fiscal year 2020. Our goals include increasing revenue on a consistent basis while investing and adding additional talent and complementary services. For 2019, we will concentrate efforts on enhancing our business development program and marketing efforts, as well as ongoing Company-wide activities intended to enhance the client experience and streamline our communication, systems and operations.

The Acquisition will also allow us to capitalize on the collective skill sets, expertise and assets of the combined companies to expand our service offerings and reach more clients. We believe the Acquisition has provided the Company additional support for further corporate development, a business development leader and additional sales talent to help drive profitable growth. Seventh Wave Laboratories has a history of 20% annual growth over the last four years. With the Acquisition, we have doubled the active client base and enhanced client service offerings. We will continue to remain focused on marketing efforts to improve our message to clients and increase our visibility in the marketplace. We will also continue to focus on delivering excellent data and results for our clients.

With the Acquisition, the Company will have the ability to reduce expenses for services previously outsourced by both entities, and the combined entities will allow for the integration of support services and the leveraging of software.

Moreover, we have understood the need to rebuild and enhance the sales team and client base for our products and services. We believe the development of the sales team and strategy has been enhanced with the acquisition and further development will continue to be a focus going forward.

We review various metrics to evaluate our financial performance, including revenue, margins and earnings. In the fiscal year ended September 30, 2018, total revenues increased 9%, gross profit increased 7% and operating expenses were higher by 26% as compared to same period in fiscal 2017. The increase in operating expenses partially reflects one-time costs related to our due diligence and acquisition efforts of \$395 as well as retirement, recruiting and incentive program development costs of approximately \$232 during fiscal 2018. The increased margins and increased

operating expenses contributed to the reported operating income of \$14 for fiscal 2018, compared to operating income of \$1,278 for fiscal 2017.

As of September 30, 2018, we had \$773 of cash and cash equivalents as compared to \$434 of cash and cash equivalents at the end of fiscal 2017. In fiscal 2018, we generated \$3,487 in cash from operations as compared to \$1,236 in fiscal 2017. Total capital expenditures increased in fiscal 2018 to \$1,317 from \$347 in fiscal 2017. In addition, customer advances increased \$1,610 compared to the prior fiscal year. As of September 30, 2018, we had zero balances on our \$3,500 general line of credit, on our \$4,445 construction line of credit and on our \$1,429 equipment line of credit. As described herein, we incurred significant additional indebtedness in connection with financing the Acquisition and expect to incur additional indebtedness through borrowings under the construction and equipment lines of credit as we pursue the Evansville, Indiana facilities expansion.

For a detailed discussion of our revenue, margins, earnings and other financial results for fiscal 2018, see “Results of Operations” below.

During fiscal 2019, we intend to continue to increase our investment in Products research and development in order to upgrade current products and to identify potential new products. We also intend to further develop and expand our relationships with distributors and resellers to boost sales in our Products business. We anticipate adding additional partnerships with companies similar to our current partners, Joanneum Research and PalmSens, to expand our Product offerings. Further, we have added key talent to help drive sales and development of our Products and to solidify relationships with our customers and prospective partners. We believe these measures will prepare us for growth in the long term.

In addition to efficiently integrating the combined businesses resulting from the Acquisition, we remain focused on executing initiatives aimed at growing revenue, obtaining efficiencies, expanding facilities, improving client services, generating additional cash flow and identifying additional growth opportunities. We continue to benefit from the market presence and scientific knowledge of the Company's founder as a scientific advisor to management and also expect to further benefit from the addition of Seventh Wave Laboratories' founders. We plan to continue to emphasize establishing a positive culture, which we believe has significantly reduced our employee turnover in fiscal 2017 and fiscal 2018 and will facilitate our continued recruitment and retention of talent.

Our long-term strategic objective remains to maximize the Company's intrinsic value per share. In order to achieve that end, we will focus on, among other items, productivity, generating free cash flow, and the strategies and initiatives mentioned above.

**Results of Operations**

The following table summarizes the consolidated statement of operations as a percentage of total revenues:

	Year Ended September 30,			
	2018		2017	
Services revenue	85.2	%	83.3	%
Products revenue	14.8		16.7	
Total revenue	100.0	%	100.0	%
Cost of services revenue <sup>(a)</sup>	70.9		69.3	
Cost of products revenue <sup>(a)</sup>	59.5		62.9	
Total cost of revenue	69.2		68.2	
Gross profit	30.8		31.8	
Operating expenses	30.8		26.4	
Operating income (loss)	0.0		5.4	
Other income (expense)	(1.0	)	(1.5	)
Income (loss) before income taxes	(1.0	)	3.9	
Income tax (expense) benefit	0.2		(0.1	)
Net income (loss)	(0.8	)%	3.8	%

(a) *Percentage of service and product revenues, respectively.*

**2018 Compared to 2017***Services and Products Revenues*

Revenues for the year ended September 30, 2018 increased 8.7% to \$26,346 compared to \$24,242 for the year ended September 30, 2017.

Our Services revenue increased 11.2% in fiscal 2018 to \$22,440 compared to \$20,182 for the prior fiscal year. Nonclinical services revenues increased due to an overall increase in the number of studies from the prior fiscal year period plus the additional revenues attributable to the Seventh Wave Laboratories acquisition added \$1,969 in fiscal 2018. Other laboratory services revenues were negatively impacted by lower discovery and archiving services, which were partially offset by higher pharmaceutical analysis revenues in fiscal 2018. Bioanalytical analysis revenues increased due to the revenues attributable to the Seventh Wave Laboratories acquisition of \$884 in fiscal 2018.

	Fiscal Year Ended			
	September 30,		Change	%
	2018	2017		
Bioanalytical analysis	\$5,487	\$4,823	\$664	13.0 %
Nonclinical services	15,147	13,010	2,137	16.4 %
Other laboratory services	1,806	2,349	(543 )	(23.1)%
	\$22,440	\$20,182	\$2,258	11.2 %

Sales in our Products segment decreased 3.8% from \$4,060 to \$3,906 when compared to the prior fiscal year. The decline stems mainly from lower sales of Culex® automated *invivo* sampling systems and related consumables as well as a decline in maintenance revenues. These factors were partially offset by an increase in sales of our analytical instruments and related consumables.

	<b>Fiscal Year Ended</b>			
	<b>September 30,</b>			
	2018	2017	Change	%
Culex®, <i>invivo</i> sampling systems	\$1,750	\$1,977	\$ (227 )	(11.5)%
Analytical instruments	1,583	1,354	229	16.9 %
Other instruments	573	729	(156 )	(21.4)%
	\$3,906	\$4,060	\$ (154 )	3.8 %

#### *Cost of Revenue*

Cost of revenue for the year ended September 30, 2018 was \$15,904 or 69.2% of revenue compared to \$16,545 or 68.2% of revenue for the prior fiscal year.

Cost of Services revenue as a percentage of Services revenue increased to 70.9% in the current fiscal year from 69.3% in the prior fiscal year. The principal cause of this increase was the mix of revenues in the current year in addition to the costs related to the service operations at Seventh Wave Laboratories.

Cost of Products revenue as a percentage of Products revenue in fiscal 2018 decreased to 59.5% from 62.9% in the prior fiscal year. This decrease is mainly due to the mix of sales favoring higher-margin instruments.

#### *Operating Expenses*

Selling expenses for the year ended September 30, 2018 increased by 46.3% to \$1,541 from \$1,053 for the year ended September 30, 2017. This increase is mainly due to the addition of marketing personnel in late fiscal 2017 as well the addition of the three business development personnel from the Seventh Wave Laboratories acquisition. Higher travel expense in fiscal 2018 also contributed to the increase.

Research and development expenses for the year ended September 30, 2018 increased 28.2% to \$596 from \$465 for the year ended September 30, 2017. The increase was primarily due to higher consulting expenses and costs for operating supplies related to product development.

General and administrative expenses for fiscal 2018 increased 21.7% to \$5,965 from \$4,901 for the prior fiscal year. The increase was mainly driven by the expenses associated with the Seventh Wave Laboratories Acquisition. We incurred approximately \$395 in costs related to the acquisition in fiscal 2018. Also in fiscal 2018, the benefit of lower consulting services expenses was partially offset by employee search fees, relocation expenses and higher stock option expense attributable to grants of options to our directors and certain of our employees in October 2017.

#### *Other Income/Expense*

Other income/expense, net, was expense of \$268 for the year ended September 30, 2018 as compared to expense of \$370 for the year ended September 30, 2017. The primary reason for the change in expense was the decrease in interest expense under our credit agreement with First Internet Bank.

#### *Income Taxes*

Our effective tax rate for the year ended September 30, 2018 was 23.5%% compared to 2.6% for the prior fiscal year. The current year benefit primarily relates to an Alternative Minimum Tax (AMT) credit carryforward that will be refundable due to AMT being repealed for corporations. This will be refundable for any tax year beginning after 2017 and before 2022 in an amount equal to 50% (100% for tax years beginning in 2021) of the excess minimum tax credit for the tax year, over the amount of the credit allowable for the year against regular tax liability.

## **Accrued Expenses**

As part of a fiscal 2012 restructuring, we accrued for lease payments at the cease use date for our United Kingdom facility and have considered free rent, sublease rentals and the number of days it would take to restore the space to its original condition prior to our improvements. Based on these matters, we have a \$1,000 reserve for lease related costs. Additionally, we accrued \$117 for legal and professional fees and other costs to remove improvements previously made to the facility. At September 30, 2018 and 2017, respectively, we had \$1,117 reserved for the liability. The reserve is classified as a current liability on the Consolidated Balance Sheets.

## **Liquidity and Capital Resources**

### *Comparative Cash Flow Analysis*

At September 30, 2018, we had cash and cash equivalents of \$773 compared to \$434 at September 30, 2017. In addition, at September 30, 2018 we had \$3,500 available on our general line of credit, \$4,445 available on our construction line of credit and \$1,429 available on our equipment line of credit. As of end of September 30, 2017, we had \$2,000 available on our general line of credit and did not have a construction line of credit or an equipment line of credit.

Net cash provided by operating activities was \$3,487 for the year ended September 30, 2018, compared to net cash provided by operating activities of \$1,236 for the year ended September 30, 2017. Contributing factors to our cash from operations in fiscal 2018 were noncash charges of \$1,875 for depreciation and amortization and \$134 for stock option expense as well as an increase in accounts payable of \$980 and an increase in customer advances of \$1,610 due to an increase in new orders as well as the addition of orders from the Seventh Wave acquisition. These factors were partially offset by, among other items, an increase in accounts receivable of \$589 and an increase in inventory of \$269.

Days' sales in accounts receivable increased to 51 days at September 30, 2018 from 48 days at September 30, 2017 due to extended customer payments and an increase in unbilled revenues. It is not unusual to see a fluctuation in the Company's pattern of days' sales in accounts receivable. Customers may expedite or delay payments from period-to-period for a variety of reasons including, but not limited to, the timing of capital raised to fund on-going research and development projects.

Included in operating activities for fiscal 2017 are non-cash charges of \$1,680 for depreciation and amortization and \$19 for stock option expense as well as a decrease in inventory of \$540. These factors were partially offset by, among other items, a decrease in accounts payable of \$913 and an increase in accounts receivable of \$941.

Investing activities used \$8,074 in fiscal 2018 due to cash paid for the Seventh Wave acquisition of \$6,759 and capital expenditures of \$1,317. In fiscal 2017, the main use of cash was due to capital expenditures of \$347. The investing activity in fiscal 2018 consisted of investments in computing infrastructure, building improvements and laboratory equipment. The investing activity in fiscal 2017 consisted of investments in computing infrastructure, building improvements and laboratory equipment.

Financing activities provided \$4,926 in fiscal year 2018 as compared to \$849 used in fiscal 2017. The main source of cash in fiscal 2018 was new borrowings resulting from the amendment to our credit agreement with FIB in July 2018 in connection with the Acquisition. Total long-term debt payments were \$331. Capital lease payments of \$131 and payment of debt issuance costs of \$113 also used cash. The main use of cash in fiscal 2017 was the payoff of the Huntington Bank long-term debt and line of credit. Total long-term debt and net line of credit payments were \$5,079. Capital lease payments of \$127 and payment of debt issuance costs of \$214 also used cash. These uses of cash were partially offset by \$4,500 of new borrowings in fiscal 2017 from our new credit agreement with FIB.

## *Capital Resources*

### Credit Facility

On June 23, 2017, we entered into a Credit Agreement (the “Credit Agreement”) with First Internet Bank of Indiana (“FIB”). The Credit Agreement included both a term loan and a revolving line of credit and is secured by mortgages on our facilities and personal property in West Lafayette and Evansville, Indiana. We used the proceeds from the term loan to satisfy our indebtedness with Huntington Bank and terminated the related interest rate swap, as more fully described in Note 7 to the condensed consolidated financial statements.

The term loan for \$4,500 bears interest at a fixed rate of 3.99%, with monthly principal and interest payments of approximately \$33. The term loan matures in June 2022. The balance on the term loan at September 30, 2018 was \$4,222. The revolving line of credit for up to \$2,000 (\$3,500 subsequent to the amendment noted below) matures in June 2019 and bears interest at the Prime Rate (generally defined as the highest rate identified as the “Prime Rate” in The Wall Street Journal “Money Rates” column on the date the interest rate is to be determined, or if that date is not a publication date, on the publication date immediately preceding) less Twenty-five (25) Basis Points (0.25%). The balance on the revolving line of credit at September 30, 2018 was \$0. We must pay accrued and unpaid interest on the outstanding balance under the credit line on a monthly basis.

The Credit Agreement contains various restrictive covenants, including restrictions on the Company's ability to dispose of assets, make acquisitions or investments, incur debt or liens, make distributions to shareholders or repurchase outstanding stock, enter into related party transactions and make capital expenditures, other than upon satisfaction of the conditions set forth in the Credit Agreement. During the quarter ended June 30, 2018, the Credit Agreement also required us to maintain (i) a minimum debt service coverage ratio of not less than 1.25 to 1.0 and (ii) a debt to equity ratio of not greater than 2.50 to 1.00 until maturity. Upon an event of default, which includes certain customary events such as, among other things, a failure to make required payments when due, a failure to comply with covenants, certain bankruptcy and insolvency events, and defaults under other material indebtedness, FIB may cease advancing funds, increase the interest rate on outstanding balances, accelerate amounts outstanding, terminate the agreement and foreclose on all collateral.

### Amendment to Credit Arrangements

In connection with the Acquisition, on July 2, 2018 the Company and FIB entered into an amendment to the Credit Agreement (as amended, the “Amended Credit Agreement”) to (i) provide the Company with an additional term loan (the “New Term Loan”) in the amount of \$5,500, the proceeds of which were used to fund a portion of the cash

consideration for the Acquisition, and (ii) increase the Company's revolving line of credit from \$2,000 to \$3,500 (the "Amended Facility"), which the Company may borrow from time to time, subject to the terms of the Amended Credit Agreement, including as may be limited by the amount of the Company's outstanding eligible receivables. The New Term Loan and the Amended Facility mature July 2, 2023 and June 30, 2019, respectively. The balance on the new term loan at September 30, 2018 was \$5,392.

Amounts outstanding under the New Term Loan bear interest at a fixed per annum rate of 5.06%, while interest accruing on the principal balance of the Facility remains unchanged, at a floating per annum rate equal to the Prime Rate (generally defined as the highest rate identified as the "Prime Rate" in The Wall Street Journal "Money Rates" column on the date the interest rate is to be determined, or if that date is not a publication date, on the publication date immediately preceding) less Twenty-five (25) Basis Points (0.25%). The New Term Loan requires monthly principal and interest payments equal to \$78. The Company remains obligated to pay accrued and unpaid interest on the outstanding balance under the Amended Facility on a monthly basis.

Following its amendment, the Company's obligations under the Amended Credit Agreement (including with respect to the initial term loan made June 23, 2017) are guaranteed by BAS Evansville, Inc. ("BASEV") as well as Seventh Wave Laboratories, LLC ("SWL"), each a wholly owned subsidiary of the Company. The Company's obligations under the Amended Credit Agreement and BASEV's and SWL's obligations under their respective Guaranties are secured by first priority security interests in substantially all of the assets of the Company, BASEV, and the Purchaser respectively, as well as mortgages on the Company's and BASEV's facilities in West Lafayette, Indiana and Evansville, Indiana, respectively.

The various restrictive covenants under the Amended Credit Agreement remain substantially consistent with those under the Credit Agreement, provided that the parties agreed (i) to modify the computation of the minimum debt service coverage ratio (but, not the ratio itself) to appropriately reflect relevant aspects of the Acquisition and (ii) to convert the debt to equity ratio in the Credit Agreement to a cash flow coverage ratio whereby, beginning with the fiscal quarter ended September 30, 2018, the ratio of the Company's total funded debt (as defined in the Amended Credit Agreement) as of the last day of each fiscal quarter to its EBITDA (as defined in the Amended Credit Agreement) for the 12 months ended on such date may not exceed 4.50 to 1.00. The Company was in compliance with these covenants as of September 30, 2018.

#### Subsequent Amendment to Credit Arrangements

On September 28, 2018, the Company and FIB entered into an amendment (the "Subsequent Amendment") to the Credit Agreement (as amended, the "Current Credit Agreement") to provide the Company a construction draw loan in a principal amount not to exceed \$4,445 and an equipment draw loan in a principal amount not to exceed \$1,429 (collectively, the "Loans"). Each Loan matures March 28, 2025. As of September 30, 2018, there was a \$0 balance, respectively, on both the construction draw loan and the equipment draw loan.

Subject to certain conditions precedent, each Loan permits the Company to obtain advances aggregating up to the maximum principal amount available for such Loan through March 28, 2020. Amounts outstanding under the Loans bear interest at a fixed per annum rate of 5.20%. Each Loan requires monthly payments of accrued interest on amounts outstanding through March 28, 2020, and thereafter monthly payments of principal and interest on amounts then outstanding through maturity.

Following the execution of the Subsequent Amendment, the Company's obligations under the Current Credit Agreement (including with respect to the Loans) remain guaranteed by BASEV and SWL. The Company's obligations under the Current Credit Agreement and BASEV's and SWL's obligations under their respective Guaranties are secured by first priority security interests in substantially all of the assets of the Company, BASEV, and SWL, respectively, as well as mortgages on the Company's and BASEV's facilities in West Lafayette, Indiana and Evansville, Indiana, respectively. The various restrictive covenants under the Current Credit Agreement remain substantially consistent, provided that the parties agreed to modify the computation of the minimum debt service coverage ratio (but, not the ratio itself) to exclude certain unfunded capital expenditures related to building expansion costs incurred during fiscal 2018 and 2019 from the computation.

On January 28, 2015, the Company entered into a lease agreement with Cook Biotech, Inc. The lease agreement has and will provide the Company with additional cash in the range of approximately \$50 per month during the first year of the initial term to approximately \$57 per month during the final year of the initial term.

The Company's sources of liquidity for fiscal 2019 are expected to consist primarily of cash generated from operations, cash on-hand and additional borrowings available under our Current Credit Agreement. Management believes that the resources described above will be sufficient to fund operations, planned capital expenditures and working capital requirements over the next twelve months.

### **Inflation**

We do not believe that inflation has had a material adverse effect on our business, operations or financial condition.

### **Critical Accounting Policies**

"Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Liquidity and Capital Resources" discusses the consolidated financial statements of the Company, which have been prepared in accordance with accounting principles generally accepted in the United States. Preparation of these financial statements requires management to make judgments and estimates that affect the reported amounts of assets, liabilities, revenues and expenses, and the disclosures of contingent assets and liabilities. Certain significant accounting policies applied in the preparation of the financial statements require management to make difficult, subjective or complex judgments, and are considered critical accounting policies. We have identified the following areas as critical accounting policies.

### *Revenue Recognition*

The majority of our Bioanalytical and analytical research service contracts involve the development of analytical methods and the processing of bioanalytical samples for pharmaceutical companies and generally provide for a fixed fee for each sample processed. Revenue is recognized under the specific performance method of accounting and the related direct costs are recognized when services are performed. Our preclinical research service contracts generally consist of preclinical studies, and revenue is recognized under the proportional performance method of accounting. Revisions in profit estimates, if any, are reflected on a cumulative basis in the period in which such revisions become known. The establishment of contract prices and total contract costs involves estimates we make at the inception of the contract. These estimates could change during the term of the contract and impact the revenue and costs reported in the consolidated financial statements. Revisions to estimates have generally not been material. Research service contract fees received upon acceptance are deferred until earned, and classified within customer advances. Unbilled revenues represent revenues earned under contracts in advance of billings.

Beginning in calendar year 2017, we began to recognize archive revenue when the following criteria are met: (1) persuasive evidence of an arrangement exists; (2) services have been rendered; (3) the invoice price is fixed or determinable; and (4) collectability of the resulting receivable is reasonably assured. Archiving revenues are recognized in the month the service is provided, and customers are generally billed on a monthly basis on contractually agreed-upon terms. Amounts related to future archiving or prepaid archiving contracts for customers where archiving fees are billed in advance are accounted for as deferred revenue and recognized ratably over the period the applicable archive service is performed. For archiving revenues that were billed for services rendered prior to calendar year 2017, revenue is recognized when the invoice is paid by the customer.

Product revenue from sales of equipment not requiring installation, testing or training is recognized upon shipment to customers. One product includes internally developed software and requires installation, testing and training, which occur concurrently. Revenue from these sales is recognized upon completion of the installation, testing and training when the services are bundled with the equipment sale.

### *Long-Lived Assets, Including Goodwill*

Long-lived assets, such as property and equipment, and purchased intangibles subject to amortization, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to estimated undiscounted future cash flows expected to be generated by the asset. If the carrying amount of an asset exceeds its estimated future cash flows, an impairment charge is recognized of the amount by which the carrying amount of the asset exceeds the fair value of the asset.

We carry goodwill at cost. Other intangible assets with definite lives are stated at cost and are amortized on a straight-line basis over their estimated useful lives. All intangible assets acquired that are obtained through contractual or legal right, or are capable of being separately sold, transferred, licensed, rented, or exchanged, are recognized as an asset apart from goodwill. Goodwill is not amortized.

We review goodwill for impairment on an annual basis in accordance with ASC 350, Intangibles- Goodwill and Other. In evaluating the goodwill, we must make assumptions regarding the discounted future cash flows of the reporting unit with goodwill. If the discounted cash flows are less than the carrying value, we then determine if an impairment loss is recognized by evaluating the fair value of the goodwill. We utilize fair value techniques accepted by ASC 820, which include the income, market and cost approach. If the fair value of the goodwill is less than the carrying amount, we recognize an impairment loss. Considerable management judgment is necessary to evaluate the impact of operating and macroeconomic changes and to estimate future cash flows. Assumptions used in our impairment evaluations, such as forecasted sales growth rates and our cost of capital or discount rate, are based on the best available market information. Changes in these estimates or a continued decline in general economic conditions could change our conclusion regarding an impairment of goodwill and potentially result in a non-cash impairment loss in a future period. The assumptions used in our impairment testing could be adversely affected by certain risks. There have been no significant events since the timing of our impairment tests that would have triggered additional impairment testing.

Our reporting units with goodwill at September 30, 2018 was preclinical services and St. Louis services, which are included in our Services operating segment, based on the discrete financial information available which is reviewed by management. We performed our annual goodwill impairment test for the Preclinical and St. Louis Services reporting units at September 30, 2018 and there was no indication of impairment.

At September 30, 2018 and 2017, respectively, the remaining recorded goodwill was \$3,072 and \$38.

### *Stock-Based Compensation*

We recognize the cost resulting from all share-based payment transactions in our financial statements using a fair-value-based method. We measure compensation cost for all share-based awards based on estimated fair values and recognize compensation over the vesting period for awards. We recognized stock-based compensation related to stock options of \$134 and \$19 during the fiscal years ended September 30, 2018 and 2017, respectively.

We use the binomial option valuation model to determine the grant date fair value. The determination of fair value is affected by our common share price as well as assumptions regarding subjective and complex variables such as expected employee exercise behavior and our expected stock price volatility over the term of the award. Generally, our assumptions are based on historical information and judgment is required to determine if historical trends may be indicators of future outcomes. We estimated the following key assumptions for the binomial valuation calculation:

- *Risk-free interest rate.* The risk-free interest rate is based on U.S. Treasury yields in effect at the time of grant for the expected term of the option.

- *Expected volatility.* We use our historical share price volatility on our common shares for our expected volatility assumption.

- *Expected term.* The expected term represents the weighted-average period the stock options are expected to remain outstanding. The expected term is determined based on historical exercise behavior, post-vesting termination patterns, options outstanding and future expected exercise behavior.

- *Expected dividends.* We assumed that we will pay no dividends.

Employee stock-based compensation expense recognized in fiscal 2018 and 2017 was calculated based on awards ultimately expected to vest and has been reduced for estimated forfeitures. Forfeitures are revised, if necessary, in

subsequent periods if actual forfeitures differ from those estimates and an adjustment will be recognized at that time.

*Income Tax Accounting*

As described in Note 8 to the consolidated financial statements, we use the asset and liability method of accounting for income taxes. We recognize deferred tax assets and liabilities for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases and operating loss and tax credit carry-forwards. We measure deferred tax assets and liabilities using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. We recognize the effect on deferred tax assets and liabilities of a change in tax rates in income in the period that includes the enactment date. We record valuation allowances based on a determination of the expected realization of tax assets.

We recognize the tax benefit from an uncertain tax position only if it is more likely than not to be sustained upon examination based on the technical merits of the position. We measure the amount of the accrual for which an exposure exists as the largest amount of benefit determined on a cumulative probability basis that we believe is more likely than not to be realized upon ultimate settlement of the position.

We record interest and penalties accrued in relation to uncertain income tax positions as a component of income tax expense. Any changes in the accrued liability for uncertain tax positions would impact our effective tax rate. Interest and penalties are included in the reserve.

As of September 30, 2018 and 2017, we had a \$0 and \$16 liability for uncertain income tax positions, respectively.

We file income tax returns in the U.S. and several U.S. states. We remain subject to examination by taxing authorities in the jurisdictions in which we have filed returns for years after 2013.

### *Inventories*

Inventories are stated at the lower of cost or market using the first-in, first-out (FIFO) cost method of accounting. We evaluate inventories on a regular basis to identify inventory on hand that may be obsolete or in excess of current and future projected market demand. For inventory deemed to be obsolete, we provide a reserve for this inventory. Inventory that is in excess of current and projected use is reduced by an allowance to a level that approximates the estimate of future demand.

### *Interest Rate Swap*

The Company used an interest rate swap designated as a cash flow hedge to fix the interest rate on 60% of its prior debt with Huntington Bank due to changes in interest rates. The changes in the fair value of the interest rate swap were recorded in Accumulated Other Comprehensive Income ("AOCI") to the extent effective. We assessed on an ongoing basis whether the derivative that was used in the hedging transaction was highly effective in offsetting changes in cash flows of the hedged debt. The terms of the interest rate swaps matched the terms of the underlying debt resulting in no ineffectiveness. When we determine that a derivative is not highly effective as a hedge, hedge accounting would be discontinued and we would have reclassified gains or losses that were accumulated in AOCI to other income (expense), net on the Condensed Consolidated Statements of Operations and Comprehensive Income (Loss). The interest rate swap was terminated as a result of the new credit facility described above and the balance was

reduced to zero as of June 30, 2017.

*Building Lease*

The Lease Agreement with Cook Biotech, Inc. for a portion of the Company's headquarters facility is recorded as an operating lease with the escalating rents being recognized on a straight-line basis once the Tenant took full possession of the space on May 1, 2015 through the end of the lease on December 31, 2024. The straight line rents of \$53 per month are recorded as a reduction to general and administrative expenses on the Consolidated Statements of Operations and Comprehensive Income (Loss) and other accounts receivable on the Consolidated Balance Sheets. The cash rent received is recorded in lease rent receivable on the Consolidated Balance Sheets. The variance between the straight line rents recognized and the actual cash rents received will net to zero by the end of the agreement on December 31, 2024.

*New Accounting Pronouncements*

Effective October 1, 2018, the Company will be required to adopt the new guidance of ASC Topic 606, Revenue from Contracts with Customers (Topic 606), which will supersede the revenue recognition requirements in ASC Topic 605, Revenue Recognition. Topic 606 requires the Company to recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. The new guidance requires the Company to apply the following steps: (1) identify the contract with a customer; (2) identify the performance obligations in the contract; (3) determine the transaction price; (4) allocate the transaction price to the performance obligations in the contract; and (5) recognize revenue when, or as, the Company satisfies a performance obligation. The Company will be required to adopt Topic 606 either on a full retrospective basis to each prior reporting period presented or on a modified retrospective basis with the cumulative effect of initially applying the new guidance recognized at the date of initial application. If the Company elects the modified retrospective approach, it will be required to provide additional disclosures of the amount by which each financial statement line item is affected in the current reporting period, as compared to the guidance that was in effect before the change, and an explanation of the reasons for significant changes. The Company has assessed the impact of adoption on its material revenue streams, evaluated the new disclosure requirements, and identified and implemented appropriate changes to its business processes, systems and controls to support recognition and disclosure under the new guidance. We expect to adopt Topic 606 using the modified retrospective approach. Based on completing the assessment, the Company has determined that the adoption of the guidance will not result in a material impact on its consolidated financial statements.

In February 2016, the FASB issued updated guidance on leases which, for operating leases, requires a lessee to recognize a right-of-use asset and a lease liability, initially measured at the present value of the lease payments, in its balance sheet. The standard also requires a lessee to recognize a single lease cost, calculated so that the cost of the lease is allocated over the lease term, on a generally straight-line basis. The guidance is effective for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years, with earlier application permitted. We are currently evaluating the effects of adoption and have not yet determined the impact the revised guidance will have on our consolidated financial statements and related disclosures.

In August 2016, the FASB issued ASU 2016-15, Statement of Cash Flows (Topic 230), which addresses eight specific cash flow issues and is intended to reduce diversity in practice in how certain cash receipts and cash payments are presented and classified in the statement of cash flows. The guidance is effective for interim and annual periods beginning after December 15, 2017, and early adoption is permitted. The adoption of this guidance is not expected to have a material impact on our consolidated financial statements.

In January 2017, the FASB issued ASU 2017-01, *Business Combinations – Clarifying the definition of a business* (Topic 805). This ASU clarifies the definition of a business with the objective of providing a more robust framework to evaluate whether transactions should be accounted for as acquisitions (or disposals) of assets or businesses. The guidance will be effective for fiscal years beginning after December 15, 2017, including interim

periods within that fiscal year, with early adoption permitted. The amendments are to be applied prospectively to business combinations that occur after the effective date. The adoption of this guidance is not expected to have a material impact on our consolidated financial statements.

In January 2017, the FASB issued ASU 2017-04, Simplifying the Test for Goodwill Impairment. ASU 2017-04 simplifies the accounting for goodwill impairments by eliminating Step 2 from the goodwill impairment test. Under the previous guidance an impairment of goodwill exists when the carrying amount of goodwill exceeds its implied fair value, whereas under the new guidance a goodwill impairment loss would be recognized if the carrying amount of the reporting unit exceeds its fair value, limited to the total amount of goodwill allocated to that reporting unit. The ASU is effective for annual and any interim impairment tests for periods beginning after December 15, 2019. Early adoption is permitted for interim or annual goodwill impairment tests performed on testing dates after January 1, 2017. The Company early adopted this ASU during fiscal 2018 with no material impact to our consolidated financial statements.

***ITEM 7A - QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK***

Not applicable.

**ITEM 8 - FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA**

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<u>Consolidated Statements of Operations and Comprehensive Income (Loss) for the Years Ended September 30, 2018 and 2017</u>	<u>41</u>
<u>Consolidated Statements of Shareholders' Equity for the Years Ended September 30, 2018 and 2017</u>	<u>42</u>
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**BIOANALYTICAL SYSTEMS, INC.**  
**CONSOLIDATED BALANCE SHEETS**

(In thousands, except share amounts)

	As of September 30,	
	2018	2017
Assets		
Current assets:		
Cash and cash equivalents	\$ 773	\$ 434
Accounts receivable		
Trade, net of allowance of \$1,948 at September 30, 2018 and \$2,404 at September 30, 2017	4,128	2,530
Unbilled revenues and other	1,012	615
Inventories, net	1,182	913
Prepaid expenses	966	814
Total current assets	8,061	5,306
Property and equipment, net	16,610	14,965
Goodwill	3,072	38
Other intangible assets, net	3,318	—
Lease rent receivable	115	87
Deferred tax asset	62	—
Other assets	30	21
Total assets	\$ 31,268	\$ 20,417
Liabilities and shareholders' equity		
Current liabilities:		
Accounts payable	\$ 3,192	\$ 2,052
Restructuring liability	1,117	1,117
Accrued expenses	1,571	1,202
Customer advances	4,925	2,980
Income taxes payable	—	20
Current portion of capital lease obligation	87	128
Current portion of long-term debt	909	224
Total current liabilities	11,801	7,723
Capital lease obligation, less current portion	37	69
Long-term debt, less current portion, net of debt issuance costs	8,546	4,158
Total liabilities	20,384	11,950
Shareholders' equity:		
Preferred shares, authorized 1,000,000 shares, no par value:		
35 Series A shares at \$1,000 stated value issued and outstanding at September 30, 2018 and 1,035 at September 30, 2017	35	1,035
Common shares, no par value:		

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Authorized 19,000,000 shares; 10,245,277 issued and outstanding at September 30, 2018 and 8,243,896 at September 30, 2017	2,523	2,023
Additional paid-in capital	24,557	21,446
Accumulated deficit	(16,231)	(16,037)
Total shareholders' equity	10,884	8,467
Total liabilities and shareholders' equity	\$31,268	\$20,417

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

**BIOANALYTICAL SYSTEMS, INC.**  
**CONSOLIDATED STATEMENTS OF OPERATIONS**  
**AND COMPREHENSIVE INCOME (LOSS)**

(In thousands, except per share amounts)

	For the Years Ended September 30,	
	2018	2017
Services revenue	\$ 22,440	\$ 20,182
Products revenue	3,906	4,060
Total revenue	26,346	24,242
Cost of services revenue	15,904	13,990
Cost of products revenue	2,326	2,555
Total cost of revenue	18,230	16,545
Gross profit	8,116	7,697
Operating expenses:		
Selling	1,541	1,053
Research and development	596	465
General and administrative	5,965	4,901
Total operating expenses	8,102	6,419
Operating income	14	1,278
Interest expense	(274 )	(375 )
Other income	6	5
Income (loss) before income taxes	(254 )	908
Income tax expense (benefit)	(60 )	24
Net income (loss)	\$ (194 )	\$ 884
Other comprehensive income	—	35
Comprehensive income (loss)	\$ (194 )	\$ 919
Basic net income (loss) per share:	\$ (0.02 )	\$ 0.11
Diluted net income (loss) per share:	\$ (0.02 )	\$ 0.10
Weighted common shares outstanding:		
Basic	8,771	8,178
Diluted	8,771	8,733

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

**BIOANALYTICAL SYSTEMS, INC.**  
**CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY**

(In thousands, except number of shares)

	Preferred Shares		Common Shares		Additional paid-in	Accumulated deficit	Accumulated other comprehensive income (loss)	Total shareholders' equity
	Number	Amount	Number	Amount	capital			
Balance at October 1, 2016	1,185	\$ 1,185	8,107,558	\$ 1,989	\$ 21,240	\$ (16,921 )	\$ (35 )	\$ 7,458
Comprehensive income:								
Net income						884		884
Other comprehensive income							35	35
Stock based compensation expense					19			19
Stock option exercise	-	-	61,338	15	56			71
Conversion of preferred shares to common shares	(150 )	(150 )	75,000	19	131			-
Balance at September 30, 2017	1,035	\$ 1,035	8,243,896	\$ 2,023	\$ 21,446	\$ (16,037 )	\$ -	\$ 8,467
Comprehensive loss:								
Net loss						(194 )		(194 )
Stock issued in acquisition			1,500,000	375	2,100			2,475
Stock based compensation expense					134			134
Stock option exercise			1,381	0	2			2
Conversion of preferred shares to common shares	(1,000)	(1,000)	500,000	125	875			-
Balance at September 30, 2018	35	\$ 35	10,245,277	\$ 2,523	\$ 24,557	\$ (16,231 )	\$ -	\$ 10,884

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

**BIOANALYTICAL SYSTEMS, INC.**  
**CONSOLIDATED STATEMENTS OF CASH FLOWS**  
(In thousands)

	Years Ended September 30,	
	2018	2017
Operating activities:		
Net income (loss)	\$ (194	) \$ 884
Adjustments to reconcile net income (loss) to net cash provided by operating activities:		
Depreciation and amortization	1,875	1,680
Employee stock compensation expense	134	19
(Gain) on sale of property and equipment	—	(5
Provision for doubtful accounts	(4	) —
Changes in operating assets and liabilities:		
Accounts receivable	(589	) (941
Inventories	(269	) 540
Income taxes	(82	) 7
Prepaid expenses and other assets	(77	) (14
Accounts payable	980	(913
Accrued expenses	103	113
Customer advances	1,610	(134
Net cash provided by operating activities	\$ 3,487	1,236
Investing activities:		
Cash paid in acquisition	(6,759	) —
Capital expenditures	(1,317	) (347
Proceeds from sale of equipment	2	8
Net cash used in investing activities	(8,074	) (339
Financing activities:		
Payments of long-term debt	(331	) (3,721
New borrowings on long-term debt	5,500	4,500
Payments of debt issuance costs	(113	) (214
Proceeds from exercise of stock options	1	71
Payments on revolving line of credit	(7,545	) (11,516
Borrowings on revolving line of credit	7,545	10,158
Payments on capital lease obligations	(131	) (127
Net cash provided by (used in) financing activities	4,926	(849
Net increase in cash and cash equivalents	339	48
Cash and cash equivalents at beginning of year	434	386
Cash and cash equivalents at end of year	\$ 773	\$ 434

Supplemental disclosure of cash flow information:

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Cash paid for interest	\$ 233	\$ 230
Supplemental disclosure of non-cash financing activities:		
Conversion of preferred shares to common shares	\$ 1,000	\$ 150
Seventh Wave Laboratories LLC acquisition:		
Assets acquired	\$ 10,052	\$ —
Liabilities assumed	(818 )	—
Common shares issued	(2,475 )	—
Cash paid	\$ 6,759	

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

**BIOANALYTICAL SYSTEMS, INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**  
**(Amounts in thousands unless otherwise indicated)**

**1. DESCRIPTION OF THE BUSINESS AND BASIS OF PRESENTATION**

Bioanalytical Systems, Inc. and its subsidiaries (“We,” “Our,” “Us,” the “Company” or “BASi”) engage in contract laboratory research services and other services related to pharmaceutical development. We also manufacture scientific instruments for life sciences research, which we sell with related software for use by pharmaceutical companies, universities, government research centers and medical research institutions. Our customers are located throughout the world.

**2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

*(a) Principles of Consolidation*

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

*(b) Revenue Recognition*

The majority of our bioanalytical and analytical research service contracts involve the development of analytical methods and the processing of bioanalytical samples for pharmaceutical companies and generally provide for a fixed fee for each sample processed. Revenue is recognized under the specific performance method of accounting and the related direct costs are recognized when services are performed. Our preclinical research service contracts generally consist of preclinical studies, and revenue is recognized under the proportional performance method of accounting. Revisions in profit estimates, if any, are reflected on a cumulative basis in the period in which such revisions become known. The establishment of contract prices and total contract costs involves estimates we make at the inception of the contract. These estimates could change during the term of the contract and impact the revenue and costs reported in the consolidated financial statements. Revisions to estimates have generally not been material. Research service contract fees received upon acceptance are deferred until earned, and classified within customer advances. Unbilled revenues represent revenues earned under contracts in advance of billings.

Beginning in calendar year 2017, we began to recognize archive revenue when the following criteria are met: (1) persuasive evidence of an arrangement exists; (2) services have been rendered; (3) the invoice price is fixed or determinable; and (4) collectability of the resulting receivable is reasonably assured. Archiving revenues are recognized in the month the service is provided, and customers are generally billed on a monthly basis on contractually agreed-upon terms. Amounts related to future archiving or prepaid archiving contracts for customers where archiving fees are billed in advance are accounted for as deferred revenue and recognized ratably over the period the applicable archive service is performed. For archiving revenues that were billed for services rendered prior to calendar year 2017, revenue is recognized when the invoice is paid by the customer.

Product revenue from sales of equipment not requiring installation, testing or training is recognized upon shipment to customers. One product includes internally developed software and requires installation, testing and training, which occur concurrently. Revenue from these sales is recognized upon completion of the installation, testing and training when the services are bundled with the equipment sale.

(c) *Cash Equivalents*

We consider all highly liquid investments with an original maturity of three months or less when purchased to be cash equivalents. At September 30, 2018, we did not have any cash accounts that exceeded federally insured limits.

*(d) Accounts Receivable*

We perform periodic credit evaluations of our customers' financial conditions and generally do not require collateral on trade accounts receivable. We account for trade receivables based on the amounts billed to customers. Past due receivables are determined based on contractual terms. We do not accrue interest on any of our trade receivables. The allowance for doubtful accounts is determined by management based on our historical losses, specific customer circumstances, and general economic conditions. Periodically, management reviews accounts receivable and adjusts the allowance based on current circumstances and charges off uncollectible receivables when all attempts to collect have failed. Our allowance for doubtful accounts was \$1,948 and \$2,404 at September 30, 2018 and 2017, respectively. The increase in fiscal 2017 stemmed from the uncollected archive invoices from the first quarter of fiscal 2017. Until these are collected, they are not recorded as earned revenue and will remain in the reserve. A summary of activity in our allowance for doubtful accounts is as follows:

	Fiscal year ended September 30,	
	2018	2017
Opening balance	\$ 2,404	\$ 565
Charged to expense	16	—
Accounts written off	(20 )	—
Establishment of archive reserve	—	3,216
Uncollected archive invoices	(452 )	(1,377 )
Ending balance	\$ 1,948	\$ 2,404

*(e) Inventories*

Inventories are stated at the lower of cost or net realizable value using the first-in, first-out (FIFO) cost method of accounting. We evaluate inventories on a regular basis to identify inventory on hand that may be obsolete or in excess of current and future projected market demand. For inventory deemed to be obsolete, we provide a reserve. Inventory that is in excess of current and projected use is reduced by an allowance to a level that approximates the estimate of future demand. A summary of activity in our inventory obsolescence is as follows for the years ended September 30, 2018 and 2017:

	Fiscal year ended September 30,	
	2018	2017
Opening balance	\$ 211	\$ 288
Provision for slow moving and obsolescence	79	92
Write-off of obsolete and slow moving inventory	(102 )	(169 )

Closing balance	\$ 188	\$ 211
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(f) *Property and Equipment*

We record property and equipment at cost, including interest capitalized during the period of construction of major facilities. We compute depreciation, including amortization on capital leases, using the straight-line method over the estimated useful lives of the assets, which we estimate to be: buildings and improvements, 34 to 40 years; machinery and equipment, 5 to 10 years, and office furniture and fixtures, 10 years. Expenditures for maintenance and repairs are expensed as incurred unless the life of the asset is extended beyond one year, which would qualify for asset treatment. Depreciation expense was \$1,686 in fiscal 2018 and \$1,515 in fiscal 2017. Property and equipment, net, as of September 30, 2018 and 2017 consisted of the following:

	2018	2017
Land and improvements	\$1,029	\$1,001
Buildings and improvements	22,194	22,090
Machinery and equipment	23,818	19,059
Office furniture and fixtures	829	638
Construction in progress	565	57
	48,435	42,845
Less: accumulated depreciation	(31,825)	(27,880)
Net property and equipment	\$16,610	\$14,965

(g) *Long-Lived Assets including Goodwill*

Long-lived assets, such as property and equipment, and purchased intangibles subject to amortization, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to estimated undiscounted future cash flows expected to be generated by the asset. If the carrying amount of an asset exceeds its estimated future cash flows, an impairment charge is recognized of the amount by which the carrying amount of the asset exceeds the fair value of the asset.

We carry goodwill at cost. Other intangible assets with definite lives are stated at cost and are amortized on a straight-line basis over their estimated useful lives. All intangible assets acquired that are obtained through contractual or legal right, or are capable of being separately sold, transferred, licensed, rented, or exchanged, are recognized as an asset apart from goodwill. Goodwill is not amortized. At September 30, 2018 and 2017, respectively, the remaining recorded goodwill was \$3,072 and \$38. The increase of \$3,034 is attributable to the Seventh Wave acquisition as described in Note 11.

We review goodwill for impairment on an annual basis in accordance with ASC 350, Intangibles- Goodwill and Other. In evaluating the goodwill, we must make assumptions regarding the discounted future cash flows of the reporting unit with goodwill. If the discounted cash flows are less than the carrying value, we then determine if an impairment loss is recognized by evaluating the fair value of the goodwill. We utilize fair value techniques accepted by ASC 820, which include the income, market and cost approach. If the fair value of the goodwill is less than the carrying amount, we recognize an impairment loss. Considerable management judgment is necessary to evaluate the impact of operating and macroeconomic changes and to estimate future cash flows. Assumptions used in our impairment evaluations, such as forecasted sales growth rates and our cost of capital or discount rate, are based on the best available market information. Changes in these estimates or a continued decline in general economic conditions could change our conclusion regarding an impairment of goodwill and potentially result in a non-cash impairment loss in a future period. The assumptions used in our impairment testing could be adversely affected by certain risks.

Our reporting units with goodwill at September 30, 2018 was preclinical services and St. Louis services, which are included in our Services operating segment, based on the discrete financial information available which is reviewed by management. We performed our annual goodwill impairment test for the Preclinical and St. Louis Services reporting units at September 30, 2018 and there was no indication of impairment. There have been no significant events since the timing of our impairment tests that would have triggered additional impairment testing after fiscal year-end.

We amortize costs of patents and licenses, which are included in other assets on the Consolidated Balance Sheets. For the fiscal years ended September 30, 2018 and 2017, the amortization expense associated with these was \$6 and \$6, respectively.

*(h) Stock-Based Compensation*

We have a stock-based employee compensation plan and a stock-based employee and outside director compensation plan, which are described more fully in Note 9. All options granted under these plans have an exercise price equal to the market value of the underlying common shares on the date of grant. We expense the estimated fair value of stock options over the vesting periods of the grants. Our policy is to recognize expense for awards subject to graded vesting using the straight-line attribution method, reduced for estimated forfeitures.

We use a binomial option-pricing model as our method of valuation for share-based awards, requiring us to make certain assumptions about the future, which are more fully described in Note 9.

(i) *Income Taxes*

Income taxes are accounted for under the asset and liability method. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases and operating loss and tax credit carry-forwards. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date. We record valuation allowances based on a determination of the expected realization of tax assets.

We may recognize the tax benefit from an uncertain tax position only if it is more likely than not to be sustained upon examination based on the technical merits of the position. The amount of the accrual for which an exposure exists is measured as the largest amount of benefit determined on a cumulative probability basis that we believe is more likely than not to be realized upon settlement of the position.

We record interest and penalties accrued in relation to uncertain income tax positions as a component of income tax expense. Any changes in the liability for uncertain tax positions would impact our effective tax rate. We do not expect the total amount of unrecognized tax benefits to significantly change in the next twelve months.

(j) *Fair Value of Financial Instruments*

The provisions of the Fair Value Measurements and Disclosure Topic defines fair value, establishes a consistent framework for measuring fair value and provides the disclosure requirements about fair value measurements. This Topic also establishes a hierarchy for inputs used in measuring fair value that maximizes the use of observable inputs and minimizes the use of unobservable inputs by requiring that the most observable inputs be used when available. Observable inputs are inputs that market participants would use in pricing the asset or liability developed based on market data obtained from sources independent of the Company. Unobservable inputs are inputs that reflect the Company's judgment about the assumptions market participants would use in pricing the asset or liability based on the best information available in the circumstances. The hierarchy is broken down into three levels based on the inputs as follows:

Level 1 – Valuations based on quoted prices for identical assets or liabilities in active markets that the Company has the ability to access.

Level 2 – Valuations based on quoted prices in markets that are not active or for which all significant inputs are observable, either directly or indirectly.

- Level 3 – Valuations based on inputs that are unobservable and significant to the overall fair value measurement.

The carrying amounts for cash and cash equivalents, accounts receivable, inventories, prepaid expenses and other assets, accounts payable and other accruals approximate their fair values because of their nature and respective duration. The carrying value of the credit facility entered into in fiscal 2017 approximates fair value since it was signed just over a year ago and subsequently amended in the current fiscal year.

We used an interest rate swap, designated as a hedge, to fix 60% of the debt from our Huntington credit facility. We did not enter into this derivative transaction to speculate on interest rates, but to hedge interest rate risk. The swap was recognized on the balance sheet at its fair value. The fair value was determined utilizing a cash flow model that takes into consideration interest rates and other inputs observable in the market from similar types of instruments, and was therefore considered a level 2 measurement. The interest rate swap was terminated as a result of the new credit facility described in Note 7 and the balance was reduced to zero in fiscal 2017.

As of September 30, 2018 and 2017, the Company did not have any financial assets or liabilities measured at fair value on a recurring basis.

(k) *Use of Estimates*

The preparation of the consolidated financial statements in conformity with generally accepted accounting principles requires us to make estimates and assumptions that affect the amounts reported in the consolidated financial statements and accompanying notes. Significant estimates as part of the issuance of these consolidated financial statements include but are not limited to the determination of fair values, allowance for doubtful accounts, inventory obsolescence, deferred tax valuations, depreciation, impairment charges and stock compensation. Our actual results could differ from those estimates.

(l) *Research and Development*

In fiscal 2018 and 2017, we incurred \$596 and \$465, respectively, on research and development. Separate from our contract research services business, we maintain applications research and development to enhance our products business. We expense research and development costs as incurred.

(m) *Interest Rate Swap*

The Company used an interest rate swap designated as a cash flow hedge to fix the interest rate on 60% of its prior debt with Huntington Bank due to changes in interest rates. The changes in the fair value of the interest rate swap were recorded in Accumulated Other Comprehensive Income ("AOCI") to the extent effective. We assessed on an ongoing basis whether the derivative that was used in the hedging transaction was highly effective in offsetting changes in cash flows of the hedged debt. The terms of the interest rate swaps matched the terms of the underlying debt resulting in no ineffectiveness. When we determine that a derivative is not highly effective as a hedge, hedge accounting would be discontinued and we would have reclassified gains or losses that were accumulated in AOCI to other income (expense), net on the Condensed Consolidated Statements of Operations and Comprehensive Income (Loss). The interest rate swap was terminated as a result of the new credit facility in Note 7 below and the balance was reduced to zero as of June 30, 2017.

(n) *Debt issuance costs*

The Company capitalizes costs associated with the issuance of debt and amortizes them as additional interest expense over the lives of the debt on a straight-line basis, which approximates the effective interest method. The Company believes the difference between the straight-line basis and the effective interest method is not material to the consolidated financial statements. Debt issuance costs of \$159 and \$64, as of September 30, 2018 and 2017, respectively, were netted with long-term debt less current portion on the consolidated balance sheets. Upon prepayment of the related debt, the Company accelerates the recognition of an appropriate amount of the costs as refinancing or extinguishment of debt.

(o) *New Accounting Pronouncements*

Effective October 1, 2018, the Company will be required to adopt the new guidance of ASC Topic 606, Revenue from Contracts with Customers (Topic 606), which will supersede the revenue recognition requirements in ASC Topic 605, Revenue Recognition. Topic 606 requires the Company to recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. The new guidance requires the Company to apply the following steps: (1) identify the contract with a customer; (2) identify the performance obligations in the contract; (3) determine the transaction price; (4) allocate the transaction price to the performance obligations in the contract; and (5) recognize revenue when, or as, the Company satisfies a performance obligation. The Company will be required to adopt Topic 606 either on a full retrospective basis to each prior reporting period presented or on a modified retrospective basis with the cumulative effect of initially applying the new guidance recognized at the date of initial application. If the Company elects the modified retrospective approach, it will be required to provide additional disclosures of the amount by which each financial statement line item is affected in the current reporting period, as compared to the guidance that was in effect before the change, and an explanation of the reasons for significant changes. The Company has assessed the impact of adoption on its material revenue streams, evaluated the new disclosure requirements, and identified and implemented appropriate changes to its business processes, systems and controls to support recognition and disclosure under the new guidance. We expect to adopt Topic 606 using the modified retrospective approach. Based on completing the assessment, the Company has determined that the adoption of the guidance will not result in a material impact on its consolidated financial statements.

In February 2016, the FASB issued updated guidance on leases which, for operating leases, requires a lessee to recognize a right-of-use asset and a lease liability, initially measured at the present value of the lease payments, in its balance sheet. The standard also requires a lessee to recognize a single lease cost, calculated so that the cost of the lease is allocated over the lease term, on a generally straight-line basis. The guidance is effective for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years, with earlier application permitted. We are currently evaluating the effects of adoption and have not yet determined the impact the revised guidance will have on our consolidated financial statements and related disclosures.

In August 2016, the FASB issued ASU 2016-15, Statement of Cash Flows (Topic 230), which addresses eight specific cash flow issues and is intended to reduce diversity in practice in how certain cash receipts and cash payments are presented and classified in the statement of cash flows. The guidance is effective for interim and annual periods beginning after December 15, 2017, and early adoption is permitted. The adoption of this guidance is not expected to have a material impact on our consolidated financial statements.

In January 2017, the FASB issued ASU 2017-01, *Business Combinations – Clarifying the definition of a business* (Topic 805). This ASU clarifies the definition of a business with the objective of providing a more robust framework to evaluate whether transactions should be accounted for as acquisitions (or disposals) of assets or businesses. The guidance will be effective for fiscal years beginning after December 15, 2017, including interim periods within that

fiscal year, with early adoption permitted. The amendments are to be applied prospectively to business combinations that occur after the effective date. The adoption of this guidance is not expected to have a material impact on our consolidated financial statements.

In January 2017, the FASB issued ASU 2017-04, Simplifying the Test for Goodwill Impairment. ASU 2017-04 simplifies the accounting for goodwill impairments by eliminating Step 2 from the goodwill impairment test. Under the previous guidance an impairment of goodwill exists when the carrying amount of goodwill exceeds its implied fair value, whereas under the new guidance a goodwill impairment loss would be recognized if the carrying amount of the reporting unit exceeds its fair value, limited to the total amount of goodwill allocated to that reporting unit. The ASU is effective for annual and any interim impairment tests for periods beginning after December 15, 2019. Early adoption is permitted for interim or annual goodwill impairment tests performed on testing dates after January 1, 2017. The Company early adopted this ASU during fiscal 2018 with no material impact to our consolidated financial statements.

### **3. SALE OF PREFERRED SHARES AND WARRANTS (not in thousands)**

On May 11, 2011, we completed a registered public offering of 5,506 units at a price of \$1,000 per unit. Each unit consisted of one 6% Series A convertible preferred share which is convertible into 500 common shares, one Class A Warrant to purchase 250 common shares at an exercise price of \$2.00 per share, and one Class B Warrant to purchase 250 common shares at an exercise price of \$2.00 per share. The Class B Warrants expired in May 2012 and the liability was reduced to zero and the Class A Warrants expired in May 2016 and the liability was reduced to zero. Prior to their respective expirations, 577,897 warrants were exercised.

The Series A preferred shares were valued using the common shares available upon conversion of all preferred shares of 2,753,000 and the closing market price of our stock on May 11, 2011 of \$1.86. As of September 30, 2018, 5,471 preferred shares have been converted into 3,139,108 common shares and 217,366 common shares have been issued for quarterly preferred dividends for remaining outstanding, unconverted preferred shares. At September 30, 2018, 35 preferred shares remained outstanding. All dividends have been paid according to the agreement.

#### 4. INCOME (LOSS) PER SHARE

We compute basic income (loss) per share using the weighted average number of common shares outstanding. The Company has two categories of dilutive potential common shares: the Series A preferred shares issued in May 2011 in connection with the registered direct offering and shares issuable upon exercise of options. We compute diluted earnings per share using the if-converted method for preferred stock and the treasury stock method for stock options, respectively. Shares issuable upon exercise of 301 vested options and 267 common shares issuable upon conversion of preferred shares were not considered in computing diluted income (loss) per share for the year ended September 30, 2018, because they were anti-dilutive.

The following table reconciles our computation of basic net income (loss) per share to diluted net income (loss) per share:

	Years Ended September 30,	
	2018	2017
Basic net income (loss) per share:		
Net income (loss) applicable to common shareholders	\$ (194 )	\$ 884
Weighted average common shares outstanding	8,771	8,178
Basic net income (loss) per share	\$ (0.02 )	\$ 0.11
Diluted net income (loss) per share:		
Diluted net income (loss) applicable to common shareholders	\$ (194 )	\$ 884
Weighted average common shares outstanding	8,771	8,178
Plus: Incremental shares from assumed conversions:		
Series A preferred shares	—	545
Dilutive stock options/shares	—	10
Diluted weighted average common shares outstanding	8,771	8,733
Diluted net income (loss) per share	\$ (0.02 )	\$ 0.10

#### 5. INVENTORIES

Inventories at September 30 consisted of the following:

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	2018	2017
Raw materials	\$939	\$761
Work in progress	89	135
Finished goods	342	228
	\$1,370	\$1,124
Obsolescence reserve	(188 )	(211 )
	\$1,182	\$913

## 6. LEASE ARRANGEMENTS

The total amount of equipment capitalized under capital lease obligations as of September 30, 2018 and 2017 was \$6,252 and \$6,195, respectively. Accumulated amortization on capital leases at September 30, 2018 and 2017 was \$6,136 and \$6,007, respectively. Amortization of assets acquired through capital leases is included in depreciation expense.

Future minimum lease payments on capital leases at September 30, 2018 for the next five years are as follows:

	Principal	Interest	Total
2019	\$ 87	\$ 4	\$91
2020	19	2	21
2021	16	1	17
2022	2	—	2
2023	—	—	—
	\$ 124	\$ 7	\$131

We lease office and laboratory space from the St. Louis University School of Medicine under operating leases that terminate at various dates through 2028. We also lease our facility in Maryland Heights, MO under an operating lease with an initial term lasting through 2025. Further, we lease other office equipment under non-cancelable operating leases that terminate at various dates through 2021. Certain of these leases contain renewal options. Total rental expense under these leases was \$193 and \$78 in fiscal 2018 and 2017, respectively. The UK building lease discussed in Note 12 expires in 2023 but includes an opt out provision after 7 years, which occurred in our fourth fiscal quarter of 2015 and was exercised.

Future minimum lease payments, exclusive of rent related to the UK restructuring discussed in Note 13, for the following fiscal years under operating leases at September 30, 2018 are as follows:

2019	\$ 549
2020	548
2021	547
2022	129
2023	129
	\$1,902

We lease a portion of our headquarters' building in West Lafayette, Indiana to Cook Biotech, Inc. (Tenant) as part of the Lease Agreement signed in January 2015. The Lease Agreement has an initial term ending December 31, 2024 with escalating rents each year. The Tenant took full possession of the space on May 1, 2015. We recognize the escalating rents on a straight-line basis as a reduction to general and administrative expenses on the Consolidated Statements of Operations and Comprehensive Income (Loss) and lease rent receivable on the Consolidated Balance Sheets. The cash rent received is recorded to the customer account and as a reduction to the other accounts receivable on the Consolidated Balance Sheets. The variance between the straight line rents recognized and the actual cash rents received will net to zero in other accounts receivable by the end of the agreement on December 31, 2024. As of September 30, 2018, the rents recognized amounted to \$2,172 and cash rent received amounted to \$2,057. Future rental income recognized and cash rents received for the next five years are as follows:

	Straight line rents to be recognized	Cash rent to be received
2019	\$ 636	\$ 621
2020	636	633
2021	636	646
2022	636	659
2023	636	672
	\$ 3,180	\$ 3,231

## 7. DEBT ARRANGEMENTS

Long-term debt consisted of the following at September 30:

	2018	2017
Term loan payable to a bank, payable in monthly principal and interest installments of \$33. Interest is fixed at 3.99%. Collateralized by substantially all assets. Due June 23, 2022.	\$4,222	\$4,446
Term loan payable to a bank, payable in monthly principal and interest Installments of \$78. Interest is fixed at 5.06%. Collateralized by substantially all assets. Due July 2, 2023.	5,392	—
Less: Current portion	(909 )	(224 )
Less: Deferred debt issuance costs	(159 )	(64 )
Long term total	\$8,546	\$4,158

Cash interest payments of \$233 and \$230 were made in 2018 and 2017, respectively. The following table summarizes the annual principal payments under our term loans:

	2019	2020	2021	2022	2023	Total
Term loans	\$909	\$953	\$1,002	\$4,284	\$2,466	\$9,614

*Credit Facility*

The term loan for \$4,500 bears interest at a fixed rate of 3.99%, with monthly principal and interest payments of approximately \$33. The term loan matures in June 2022. The balance on the term loan at September 30, 2018 was \$4,222. The revolving line of credit for up to \$2,000 (\$3,500 subsequent to the amendment noted below) matures in June 2019 and bears interest at the Prime Rate (generally defined as the highest rate identified as the “Prime Rate” in The Wall Street Journal “Money Rates” column on the date the interest rate is to be determined, or if that date is not a publication date, on the publication date immediately preceding) less Twenty-five (25) Basis Points (0.25%). The balance on the revolving line of credit at September 30, 2018 was \$0. We must pay accrued and unpaid interest on the outstanding balance under the credit line on a monthly basis.

The Credit Agreement contains various restrictive covenants, including restrictions on the Company's ability to dispose of assets, make acquisitions or investments, incur debt or liens, make distributions to shareholders or repurchase outstanding stock, enter into related party transactions and make capital expenditures, other than upon satisfaction of the conditions set forth in the Credit Agreement. During the quarter ended June 30, 2018, the Credit Agreement also required us to maintain (i) a minimum debt service coverage ratio of not less than 1.25 to 1.0 and (ii) a debt to equity ratio of not greater than 2.50 to 1.00 until maturity. Upon an event of default, which includes certain customary events such as, among other things, a failure to make required payments when due, a failure to comply with covenants, certain bankruptcy and insolvency events, and defaults under other material indebtedness, FIB may cease advancing funds, increase the interest rate on outstanding balances, accelerate amounts outstanding, terminate the agreement and foreclose on all collateral.

#### *Amendment to Credit Arrangements*

In connection with the Acquisition, on July 2, 2018 the Company and FIB entered into an amendment to the Credit Agreement (as amended, the "Amended Credit Agreement") to (i) provide the Company with an additional term loan (the "New Term Loan") in the amount of \$5,500, the proceeds of which were used to fund a portion of the cash consideration for the Acquisition, and (ii) increase the Company's revolving line of credit from \$2,000 to \$3,500 (the "Amended Facility"), which the Company may borrow from time to time, subject to the terms of the Amended Credit Agreement, including as may be limited by the amount of the Company's outstanding eligible receivables. The New Term Loan and the Amended Facility mature July 2, 2023 and June 30, 2019, respectively. The balance on the new term loan at September 30, 2018 was \$5,392.

Amounts outstanding under the New Term Loan bear interest at a fixed per annum rate of 5.06%, while interest accruing on the principal balance of the Facility remains unchanged, at a floating per annum rate equal to the Prime Rate (generally defined as the highest rate identified as the "Prime Rate" in The Wall Street Journal "Money Rates" column on the date the interest rate is to be determined, or if that date is not a publication date, on the publication date immediately preceding) less Twenty-five (25) Basis Points (0.25%). The New Term Loan requires monthly principal and interest payments equal to \$78. The Company remains obligated to pay accrued and unpaid interest on the outstanding balance under the Amended Facility on a monthly basis.

Following its amendment, the Company's obligations under the Amended Credit Agreement (including with respect to the initial term loan made June 23, 2017) are guaranteed by BAS Evansville, Inc. ("BASEV") as well as Seventh Wave Laboratories, LLC ("SWL"), each a wholly owned subsidiary of the Company. The Company's obligations under the Amended Credit Agreement and BASEV's and SWL's obligations under their respective Guaranties are secured by first priority security interests in substantially all of the assets of the Company, BASEV, and the Purchaser respectively, as well as mortgages on the Company's and BASEV's facilities in West Lafayette, Indiana and Evansville, Indiana, respectively.

The various restrictive covenants under the Amended Credit Agreement remain substantially consistent with those under the Credit Agreement, provided that the parties agreed (i) to modify the computation of the minimum debt service coverage ratio (but, not the ratio itself) to appropriately reflect relevant aspects of the Acquisition and (ii) to convert the debt to equity ratio in the Credit Agreement to a cash flow coverage ratio whereby, beginning with the fiscal quarter ended September 30, 2018, the ratio of the Company's total funded debt (as defined in the Amended Credit Agreement) as of the last day of each fiscal quarter to its EBITDA (as defined in the Amended Credit Agreement) for the 12 months ended on such date may not exceed 4.50 to 1.00. The Company was in compliance with these covenants as of September 30, 2018.

*Subsequent Amendment to Credit Arrangements*

On September 28, 2018, the Company and FIB entered into an amendment (the "Subsequent Amendment") to the Credit Agreement (as amended, the "Current Credit Agreement") to provide the Company a construction draw loan in a principal amount not to exceed \$4,445 and an equipment draw loan in a principal amount not to exceed \$1,429 (collectively, the "Loans"). Each Loan matures March 28, 2025. As of September 30, 2018, there was a \$0 balance, respectively, on both the construction draw loan and the equipment draw loan.

Subject to certain conditions precedent, each Loan permits the Company to obtain advances aggregating up to the maximum principal amount available for such Loan through March 28, 2020. Amounts outstanding under the Loans bear interest at a fixed per annum rate of 5.20%. Each Loan requires monthly payments of accrued interest on amounts outstanding through March 28, 2020, and thereafter monthly payments of principal and interest on amounts then outstanding through maturity.

Following the execution of the Subsequent Amendment, the Company's obligations under the Current Credit Agreement (including with respect to the Loans) remain guaranteed by BASEV and SWL. The Company's obligations under the Current Credit Agreement and BASEV's and SWL's obligations under their respective Guaranties are secured by first priority security interests in substantially all of the assets of the Company, BASEV, and SWL, respectively, as well as mortgages on the Company's and BASEV's facilities in West Lafayette, Indiana and Evansville, Indiana, respectively. The various restrictive covenants under the Current Credit Agreement remain substantially consistent, provided that the parties agreed to modify the computation of the minimum debt service coverage ratio (but, not the ratio itself) to exclude certain unfunded capital expenditures related to building expansion costs incurred during fiscal 2018 and 2019 from the computation.

We incurred \$69 of costs in June 2017 related to the Credit Agreement that was partially amortized in the second half of fiscal 2017 and fiscal 2018 with the remainder to be amortized through June 2022. We incurred \$59 of costs in July 2018 related to the Amended Credit Agreement that was partially amortized in the fourth quarter of fiscal 2018 with the remainder to be amortized through June 2023. Further, we incurred \$54 of costs in September 2018 related to the Second Amendment that will be amortized through March 2025. For the fiscal years ended September 30, 2018 and 2017, we amortized \$19 and \$5, respectively, into interest expense on the condensed consolidated statements of operations and comprehensive income (loss) for the Credit Agreement and Amended Credit Agreement. These noncash charges are included in depreciation and amortization on the consolidated statements of cash flows. As of September 30, 2018 and September 30, 2017, the unamortized portion of debt issuance costs related to our credit facility was \$159 and \$64, respectively, and was included in Long-term Debt, less current portion on the condensed consolidated balance sheets.

#### *Former Credit Facility*

On May 14, 2014, we entered into a Credit Agreement with Huntington Bank, which was subsequently amended on May 14, 2015 ("Agreement"). The Agreement included both a term loan and a revolving loan and was secured by mortgages on our facilities in West Lafayette and Evansville, Indiana and liens on our personal property. As of December 31, 2015, we were not in compliance with certain financial covenants of the Agreement, and during fiscal 2016 and most of the first nine months of fiscal 2017 we operated either in default of, or under forbearance arrangements with respect to, the Agreement.

Under a series of forbearance arrangements, Huntington Bank agreed during the relevant forbearance periods to forbear from exercising its rights and remedies under the Agreement and from terminating the Company's related swap agreement with respect to the Company's non-compliance with applicable financial covenants under the Agreement and to continue to make advances under the Agreement.

In exchange for Huntington Bank's agreement to forbear from exercising its rights and remedies under the Agreement, the Company agreed to, among other things: (i) amend the maturity dates for the term and revolving loans under the Agreement (the last such amendment to July 31, 2017), (ii) take commercially reasonable efforts to obtain funds sufficient to repay the indebtedness in full upon the expiration of the forbearance periods, (iii) provide to Huntington Bank certain cash flow forecasts and other financial information, (iv) comply with a minimum cash flow covenant, (v) engage the services of a financial consultant and cause the financial consultant to provide Huntington Bank such information regarding its efforts as reasonably requested, and (vi) pay to Huntington Bank certain fees, including a forbearance fee, \$27 of which was paid at the execution of the last forbearance agreement and an additional \$100 was paid in June 2017.

We incurred a total of \$56 of costs related to certain of our forbearance arrangements that was amortized in the first, second and third quarters of fiscal 2017.

*Former Interest Rate Swap*

We entered into an interest rate swap agreement with respect to the loans with Huntington Bank to fix the interest rate with respect to 60% of the value of the term loan at approximately 5.0%. We entered into this interest rate swap agreement to hedge interest rate risk of the related debt obligation and not to speculate on interest rates. The changes in the fair value of the interest rate swap were recorded in Accumulated Other Comprehensive Income to the extent effective. The interest rate swap was terminated as of June 23, 2017 in connection with the satisfaction of our indebtedness to Huntington Bank and the balance was reduced to zero.

**8. INCOME TAXES**

Significant components of our deferred tax assets and liabilities as of September 30 are as follows:

	2018	2017
Deferred tax assets:		
Inventory	\$101	\$137
Accrued compensation and vacation	68	169
Accrued expenses and other	277	357
Domestic net operating loss carryforwards	3,328	5,142
Basic difference for intangible assets	114	—
Stock compensation expense	5	9
AMT credit carryover	62	76
Total deferred tax assets	3,955	5,890
Deferred tax liabilities:		
Prepaid expenses	(60 )	(128 )
Basis difference for fixed assets	(280 )	(383 )
Total deferred tax liabilities	(340 )	(511 )
Total net deferred tax assets	3,615	5,379
Valuation allowance for net deferred tax assets	(3,553)	(5,379)
Net deferred tax asset	\$62	\$—

Significant components of the provision (benefit) for income taxes are as follows as of the year ended September 30:

	2018	2017
Current:		
Federal	\$(6 )	\$ 21
State and local	16	3
Deferred:		
Federal	(70)	—
State and local	—	—
Income tax expense (benefit)	\$(60)	\$ 24

The effective income tax rate on continuing operations varied from the statutory federal income tax rate as follows:

	2018	2017
Federal statutory income tax rate	21.0 %	34.0 %
Increases (decreases):		
State and local income taxes, net of Federal tax benefit, if applicable	(5.0 )%	0.2 %
Other nondeductible expenses	(13.6)%	1.3 %
Valuation allowance changes	21.1 %	(32.9)%
Effective income tax rate	23.5 %	2.6 %

On December 22, 2017, the United States (“U.S.”) enacted significant changes to the U.S. tax law following the passage and signing of H.R.1, “An Act to Provide for Reconciliation Pursuant to Titles II and V of the Concurrent Resolution on the Budget for Fiscal Year 2018” (the “Tax Act”) (previously known as “The Tax Cuts and Jobs Act”). The Tax Act included significant changes to existing tax law, including a permanent reduction to the U.S. Federal corporate income tax rate from 35% to 21%.

Accordingly, the Company’s income tax provision as of September 30, 2018 reflects the current year impacts of the U.S. Tax Act on the estimated annual effective tax rate. The Tax Act reduces the U.S. federal corporate tax rate from 35% to 21%. The impact from the permanent reduction to the U.S. federal corporate income tax rate from 35% to 21% is effective January 1, 2018 (the “Effective Date”). When a U.S. federal tax rate change occurs during a fiscal year, taxpayers are required to compute a weighted daily average rate for the fiscal year of enactment and as a result the Company calculated a U.S. federal statutory income tax rate of 24.5% for the current fiscal year end September 30, 2018. However, we have adjusted the statutory income tax rate to 21% as this is the rate when the deferred balances are expected to reverse.

The difference between the newly enacted federal statutory rate of 21.0% and our effective rate of 23.5% is due to changes in our valuation allowance on our net deferred tax assets along with realizing the deferred tax asset associated with the AMT credit carryforward. The impact of the newly enacted federal statutory rate as a result of the Tax Act to the net deferred tax assets is a provisional amount of approximately \$1,718 decrease with any offsetting decrease to the valuation allowance. The amount is provisional because the final number cannot be calculated until the underlying timing differences are known rather than estimated.

Realization of deferred tax assets associated with the net operating loss carryforward and credit carryforward is dependent upon generating sufficient taxable income prior to their expiration. The valuation allowance in fiscal 2018 and 2017 was \$3,553 and \$5,379, respectively for our domestic operations. Payments made in fiscal 2018 and 2017 for income taxes amounted to \$5 and \$17, respectively.

At September 30, 2018, we had domestic net operating loss carryforwards of approximately \$12,264 for federal and \$16,747 for state, which expire from September 30, 2022 through 2032.

We may recognize the tax benefit from an uncertain tax position only if it more likely than not to be sustained upon regulatory examination based on the technical merits of the position. The amount of the benefit for which an exposure exists is measured as the largest amount of benefit determined on a cumulative probability basis that we believe is more likely than not to be realized upon ultimate settlement of the position. At September 30, 2018, no liability remained for other uncertain income tax positions.

A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows:

	2018	2017
Balance at beginning of year	\$ 16	\$ 16
Additions for tax positions	10	-
Settlements	(26)	-
Balance at end of year	\$-	\$ 16

As noted in the table above, there have been no additional gross uncertain tax positions during fiscal 2018 based on any federal or state tax position.

We are no longer subject to U.S. Federal tax examinations for years before 2014 or state and local for years before 2013, with limited exceptions. For federal purposes, the tax attributes carried forward could be adjusted through the examination process and are subject to examination 3 years from the date of utilization.

We have assessed the application of Internal Revenue Code Section 382 regarding certain limitations on the future usage of net operating losses. No limitation applies as of September 30, 2018 and we will continue to monitor activities in the future.

## **9. STOCK-BASED COMPENSATION**

### *Summary of Stock Option Plans and Activity*

In March 2008, our shareholders approved the 2008 Stock Option Plan (the “Plan”) to replace the 1997 Outside Director Stock Option Plan and the 1997 Employee Stock Option Plan. The purpose of the Plan was to promote our long-term interests by providing a means of attracting and retaining officers, directors and key employees. The Compensation Committee administered the Plan and approves the particular officers, directors or employees eligible for grants. Under the Plan, employees were granted the option to purchase our common shares at fair market value on the date of the grant. Generally, options granted vest and become exercisable in four equal installments commencing one year from date of grant and expire upon the earlier of the employee’s termination of employment with us, or ten years from the date of grant.

In March 2018, our shareholders approved the amendment and restatement of the Plan in the form of the Amended and Restated 2018 Equity Incentive Plan (the “Equity Plan”) and future equity awards will be granted from the Equity Plan. The purpose of the Equity Plan is to promote our long-term interests by providing a means of attracting and retaining officers, directors and key employees. The maximum number of new common shares that may be granted under the Equity Plan is 700 shares plus the remaining shares from the 2008 Stock Option Plan. No grants have been made from the Equity Plan as of September 30, 2018. At September 30, 2018, 815 shares remained available for grants under the Plan.

The Compensation Committee has also issued non-qualified stock option grants with vesting periods different from the Plan. As of September 30, 2018 and 2017, respectively, total non-qualified stock options outstanding were 15.

In fiscal 2018, 198 options were granted to employees and independent directors. No options were granted in fiscal 2017. The weighted-average assumptions used to compute the fair value of options granted for the fiscal year ended September 30, 2018 were as follows:

Risk-free interest rate	2.31 %
Dividend yield	0.00 %
Volatility of the expected market price of the Company's common shares	83.70%
Expected life of the options (years)	8.0

A summary of our stock option activity for all options and related information for the years ended September 30, 2018 and 2017, respectively, is as follows (in thousands except for share prices):

	Options (shares)	Weighted- Average Exercise Price	Weighted- Average Grant Date Fair Value	Weighted- Average Remaining Contractual Life	Aggregate Intrinsic Value
Outstanding - October 1, 2017	140	\$ 1.91			
Exercised	(3 )	\$ 1.40	\$ 1.36		
Granted	198	\$ 1.94	\$ 1.52		
Forfeited	(34 )	\$ 3.67			
Outstanding - September 30, 2018	301	\$ 1.73	\$ 1.38	6.4	\$ 32
Exercisable at September 30, 2018	98	\$ 1.36	\$ 1.13	5.0	\$ 30

The aggregate intrinsic value is the product of the total options outstanding and the net positive difference of our common share price on September 30, 2018 and the options' exercise price.

As of September 30, 2018, our total unrecognized compensation cost related to non-vested stock options was \$182 and is expected to be recognized over a weighted-average service period of 1.0 year. Stock-based compensation expense for employee stock options for the years ended September 30, 2018 and 2017 was \$134 and \$19, respectively.

## 10. RETIREMENT PLAN

We have a 401(k) Retirement Plan (the "Plan") covering all employees over twenty-one years of age with at least one year of service. Under the terms of the Plan, we match 50% of the first 6% of the employee contribution. The Plan also includes provisions for various contributions which may be instituted at the discretion of the Board of Directors. The contribution made by the participant may not exceed 30% of the participant's annual wages. Contribution expense was \$256 and \$200 in fiscal 2018 and 2017, respectively.

## 11. BUSINESS COMBINATIONS

*Overview*

On July 2, 2018, in order to provide broader solutions and greater scientific expertise to clients and to capitalize on collective skill sets and expertise to create a comprehensive portfolio, the Company, through its wholly-owned subsidiary Cardinal Laboratories LLC (the “Purchaser”), acquired (the “Acquisition”) substantially all of the assets of Seventh Wave Laboratories LLC (the “Seller”), a consulting-based contract research laboratory located in Maryland Heights, Missouri providing integrated services for discovery and preclinical drug development, under the terms and conditions of an Asset Purchase Agreement, dated July 2, 2018, among the Purchaser, the Company, the Seller and certain members of the Seller. The total consideration for the Acquisition was approximately \$9,234, which consisted of \$6,759 in cash, including an indemnity escrow of \$750, and 1,500,000 of the Company’s common shares valued at \$2,475, using the closing price of the Company’s common shares on June 29, 2018. Seventh Wave Laboratories, LLC is being operated as a wholly-owned subsidiary of the Company. The Company funded the cash portion of the purchase price for the Acquisition with cash on hand and the net proceeds from the refinancing of its credit arrangements with FIB, as described in Note 7.

*Accounting for the Transaction*

The Company accounts for acquisitions in accordance with guidance found in ASC 805, Business Combinations. The guidance requires consideration given, including contingent consideration, assets acquired and liabilities assumed to be valued at their fair market values at the acquisition date. The guidance further provides that: (1) in-process research and development will be recorded at fair value as an indefinite-lived intangible asset; (2) acquisition costs will generally be expensed as incurred, (3) restructuring costs associated with a business combination will generally be expensed subsequent to the acquisition date; and (4) changes in deferred tax asset valuation allowances and income tax uncertainties after the acquisition date generally will affect income tax expense. ASC 805 requires that any excess of purchase price over fair value of assets acquired, including identifiable intangibles and liabilities assumed, be recognized as goodwill. Results are included in the Company's results from the acquisition date of July 2, 2018.

The Company's allocation of the \$9,234 purchase price to Seventh Wave's tangible and identifiable intangible assets acquired and liabilities assumed, based on their estimated fair values as of July 2, 2018, is included in the table below. Goodwill, which is derived from the enhanced scientific expertise, expanded customer base and our ability to provide broader service solutions through a comprehensive portfolio, is recorded based on the amount by which the purchase price exceeds the fair value of the net assets acquired and is deductible for tax purposes. The purchase price allocation as of September 30, 2018 is as follows:

	Allocation as of September 30, 2018
Assets acquired and liabilities assumed:	
Receivables	\$ 1,431
Property and equipment	2,015
Prepaid expenses	89
Customer relationships	1,980
Trademarks	1,170
Noncompete agreements	190
Backlog	143
Goodwill	3,034
Accounts payable	(160 )
Accrued expenses	(266 )
Customer advances	(335 )
Capital leases	(57 )
Balance at end of year	\$ 9,234

The allocation of the purchase price is based on valuations performed to determine the fair value of such assets and liabilities as of the acquisition date. The acquired noncompete agreements, customer relationships, trademarks and backlog have weighted average amortization periods of 4.0 years, 8.0 years, 15.0 and 0.5 years, respectively and the total weighted average life of the acquired intangible assets is 9.8 years. Amortization expense associated with these intangible assets amounted to \$165 for fiscal 2018. Goodwill from this transaction has been allocated to the Company's Services segment.

The Company incurred transaction costs of \$395 for the year ended September 30, 2018 related to the Acquisition. These costs were expensed as incurred and were primarily recorded as selling, general, and administrative expenses on the Company's consolidated statements of operations and comprehensive income (loss). Seventh Wave recorded revenues of \$2,852 and break even net income for the period beginning from the acquisition date of July 2, 2018 and ending on September 30, 2018.

### *Pro Forma Results*

The Company's unaudited pro forma results of operations for the years ended September 30, 2018 and 2017 assuming the Seventh Wave Laboratories acquisition had occurred as of October 1, 2016 are presented for comparative purposes below. These amounts are based on available information of the results of operations of Seventh Wave Laboratories prior to the acquisition date and are not necessarily indicative of what the results of operations would have been had the acquisition been completed on October 1, 2016.

This unaudited pro forma information is as follows:

	Year Ended September 30,	
	2018	2017
Total revenues	\$35,769	\$35,479
Net (loss) income	(491 )	294
Pro forma basic net income (loss) per share	\$(0.06 )	\$0.03
Pro forma diluted net income (loss) per share	\$(0.06 )	\$0.03

## 12. SEGMENT INFORMATION

We operate in two principal segments – contract research services and research products. Our Services segment provides research and development support on a contract basis directly to pharmaceutical companies. Because Seventh Wave is a consulting-based contract research laboratory whose core business involves providing integrated services for discovery and preclinical drug development, we consider it part of our Services segment. As such, the financial results are shown in the Services segment data below. Our Products segment provides liquid chromatography, electrochemical and physiological monitoring products to pharmaceutical companies, universities, government research centers, and medical research institutions. We evaluate performance and allocate resources based on these segments. Certain of our assets are not directly attributable to the Services or Products segments. These assets are grouped into the Corporate segment and include cash and cash equivalents, deferred income taxes, refundable income taxes, debt issue costs and certain other assets. We do not allocate such items to the principal segments because they are not used to evaluate their financial position. The accounting policies of these segments are the same as those described in the summary of significant accounting policies.

### (a) *Operating Segments*

	Years Ended September 30,	
	2018	2017
Revenue:		
Services	\$22,440	\$20,182
Products	3,906	4,060
	\$26,346	\$24,242
Operating income (loss):		
Services	\$763	\$1,755

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Products	(749 )	(477 )
	\$14	\$1,278
Interest Expense	(274 )	(375 )
Other income	6	5
Income (loss) before income taxes	\$(254 )	\$908

	Years Ended September 30,		Depreciation and amortization:	Years Ended September 30,	
	2018	2017		2018	2017
Identifiable assets:					
Services	\$ 24,514	\$ 12,512	Services	\$ 1,599	\$ 1,318
Products	3,469	4,807	Products	276	362
Corporate	3,285	3,098		\$ 1,875	\$ 1,680
	\$ 31,268	\$ 20,417			
Goodwill, net:			Capital expenditures:		
Services	\$ 3,072	\$ 38	Services	\$ 1,200	\$ 307
Products	—	—	Products	117	40
	\$ 3,072	\$ 38		\$ 1,317	\$ 347

*(b) Geographic Information*

	Years Ended September 30,	
	2018	2017
Sales to External Customers:		
United States	\$22,290	\$21,645
Other North America	163	266
Pacific Rim	3,073	1,395
Europe	670	774
Other	150	162
	\$26,346	\$24,242
Long-lived Assets:		
United States	\$23,136	\$15,111
	\$23,136	\$15,111

*(c) Major Customers*

In fiscal 2018, our Services group continued its presence at several important existing customers. In fiscal 2018, one customer accounted for approximately 11.2% of total sales and 4.0% of total trade accounts receivable at September 30, 2018. In fiscal 2017, this customer accounted for approximately 13.1% of total sales and 5.2% of total trade accounts receivable at September 30, 2017. The customer discussed is included in our Services segment. There can be no assurance that our business will move away from dependence upon a limited number of customer relationships.

### **13. ACCRUED EXPENSES**

As part of a fiscal 2012 restructuring, we accrued for lease payments at the cease use date for our United Kingdom facility and have considered free rent, sublease rentals and the number of days it would take to restore the space to its original condition prior to our improvements. Based on these matters, we have a \$1,000 reserve for lease related costs. Additionally, we accrued \$117 for legal and professional fees and other costs to remove improvements previously made to the facility. At September 30, 2018 and September 30, 2017, respectively, we had \$1,117 reserved for the liability. The reserve is classified as a current liability on the Consolidated Balance Sheets.

#### **14. SELF-INSURANCE**

In the first quarter of fiscal 2017, the Company was self-insured for certain costs related to its employee health plan. Costs resulting from noninsured losses were charged to income when incurred. The Company purchased insurance which limited its exposure for individual claims to approximately \$75 and had an aggregating specific deductible of \$85 at September 30, 2016. In order to better control health costs in fiscal 2017, the Company moved to a fully-insured health plan, minimizing the claim spikes we experienced in fiscal 2016. The Company's total expense was \$1,026 and \$925 for fiscal 2018 and 2017, respectively.

#### **15. RELATED-PARTY TRANSACTIONS**

The Company entered into a consulting agreement with a shareholder during fiscal 2016. The agreement was terminated on good terms on June 1, 2016. In April 2017, the Company renewed the agreement with the shareholder, incurring \$62 and \$22 in fees and reimbursed travel costs in fiscal 2018 and fiscal 2017, respectively.

**REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

To the Board of Directors and Stockholders of  
Bioanalytical Systems, Inc.

**Opinion on the Financial Statements**

We have audited the accompanying consolidated balance sheets of Bioanalytical Systems, Inc. (the Company) as of September 30, 2018 and 2017, the related consolidated statements of operations and comprehensive income (loss), stockholders' equity and cash flows for the years then ended, and the related notes to the consolidated financial statements (collectively, the financial statements). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of September 30, 2018, and the results of its operations and its cash flows for the years then ended, in conformity with accounting principles generally accepted in the United States of America.

**Basis for Opinion**

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as

evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ RSM US LLP

We have served as the Company's auditor since 2013.

Indianapolis, Indiana  
December 21, 2018

***ITEM 9 - CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE***

None.

***ITEM 9A - CONTROLS AND PROCEDURES***

On July 2, 2018, we acquired substantially all of the assets of Seventh Wave Laboratories, LLC. Seventh Wave's business constituted 32.8% of our total assets at September 30, 2018 and 31.7% of our revenues for the three months ended September 30, 2018. As permitted by SEC guidance for newly acquired businesses, because it was not possible to complete an effective assessment of the acquired businesses' internal controls over financial reporting as of September 30, 2018, the Company's management has excluded such internal controls over financial reporting from its evaluation of the Company's internal control over financial reporting and, to the extent subsumed by internal control over financial reporting, its disclosure controls and procedures, each as disclosed herein. The Company's management is in the process of reviewing the operations of the Seventh Wave business and implementing the Company's internal control structure over the acquired operations.

*Disclosure Controls and Procedures*

We maintain disclosure controls and procedures that are designed to provide reasonable assurance that information, which is required to be disclosed timely, is accumulated and communicated to management in a timely fashion. In designing and evaluating such controls and procedures, we recognize that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives. Our management is necessarily required to use judgment in evaluating controls and procedures.

Management performs periodic evaluations to determine if our disclosure controls and procedures are effective to provide reasonable assurance that information required to be disclosed by the Company in the reports that it files or submits under the Securities Exchange Act of 1934, as amended, is accumulated and communicated to management, including our acting principal executive officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure and are effective to provide reasonable assurance that such information is recorded, processed, summarized and reported within the time periods specified by the SEC's rules and forms. An evaluation of the effectiveness of the design and operation of our disclosure controls and procedures as of the end of the period covered by this report was performed under the supervision and with the participation of management, which resulted in a determination by our acting principal executive officer and Chief Financial Officer that our disclosure controls and procedures were effective as of September 30, 2018.

*Management's Report on Internal Control over Financial Reporting*

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. Under the supervision and with the participation of our management, including our acting principal executive officer and Chief Financial Officer (or persons performing similar functions), we conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework in Internal Control-Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

Based on our assessment and those criteria, management concluded that the Company maintained effective internal control over financial reporting as of September 30, 2018.

*Changes in Internal Controls*

There were no changes in our internal control over financial reporting, as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act, during the fourth quarter of fiscal 2018 that have materially affected or are reasonably likely to materially affect our internal control over financial reporting.

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

**ITEM 9B - OTHER INFORMATION**

Not applicable.

**PART III**

**ITEM 10 - DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE**

The following information concerns the persons who served as the directors of the Company as of the date of this filing. Except as indicated in the following paragraphs, the principal occupations of these persons have not changed in the past five years. Information concerning the executive officers of the Company may be found in "Executive Officers of the Registrant" under Item 1 of this report, which is incorporated herein by reference.

<b>Name</b>	<b>Age</b>	<b>Position</b>
Gregory C. Davis, Ph.D.	65	Chairman
Richard A. Johnson	73	Director
R. Matthew Neff	63	Director
Wendy Perrow	60	Director
John E. Sagartz, DVM, PhD, DACVP	54	Director, Chief Strategy Officer

**Gregory C. Davis, Ph.D.** was elected to the board on June 14, 2017. Dr. Davis currently runs his own consulting firm, which he founded in 2012, assisting companies with regulatory and control strategy and product development issues. In 2014, Dr. Davis joined Calibrium, LLC as Vice President of CMC, Regulatory, and Quality. Calibrium was developing novel biotherapeutics for the treatment of diabetes. The company was sold to Novo Nordisk in late 2015. From 1992 to 2012, Dr. Davis held various leadership positions at Eli Lilly in Biotechnology Product Development, Global Regulatory Affairs, Global Brand Teams, and Quality. Dr. Davis' tenure at Eli Lilly included service as Chief Operating Officer of the Xigris Product Team. Xigris was the first biotechnology product ever approved for the treatment of severe sepsis. When Dr. Davis retired from Eli Lilly in December of 2012, he was Executive Director and Senior Principle Fellow in Global Regulatory Affairs. Dr. Davis has held numerous leadership positions within the

Pharmaceutical Research and Manufacturers Association (PhRMA), the United States Pharmacopeia (USP), and the Biotechnology Industry Organization (BIO). He also served for five years as the PhRMA liaison to the International Conference on Harmonization (ICH) for Q5/Q6 Biotechnology topics. He coauthored several of the ICH guidances on registration standards for biotechnology products, which are still in use today. Dr. Davis received his bachelor's degree from Southeast Missouri State University and his Ph.D. in Analytical Chemistry from Purdue University studying under Dr. Peter Kissinger, founder of BASi. As Chairman of the Board, Dr. Davis provides the Board of Directors with significant industry and leadership experience.

**Richard A. Johnson, Ph.D.** was elected as a director of the Company on May 9, 2012. Dr. Johnson is currently an executive scientific consultant. From 1990 to 2008, he served as Founder and President of AvTech Laboratories. Prior to founding AvTech Laboratories, he served in various positions with The Upjohn Company, including Senior Research Scientist, Manager of Product Control, Manager of Quality Assurance Product Support and Director of Strategic Planning. Dr. Johnson received his Bachelor of Science in Chemistry from the Illinois Institute of Technology and his Ph.D. in Chemical Physics from Michigan State University. Dr. Johnson brings to the Board of Directors knowledge and insight on scientific matters, stemming from his extensive experience in the pharmaceutical industry.

**R. Matthew Neff** was elected to the board on August 1, 2017. Mr. Neff is currently Of Counsel with Bingham Greenebaum Doll LLP's Corporate and Transactional Department. From August 2013 through June 2016, Mr. Neff served as Chairman, President and Chief Executive Officer of AIT Laboratories, a national toxicology lab headquartered in Indianapolis, Indiana. Mr. Neff joined AIT Laboratories after his tenure as President and Chief Executive Officer of CHV Capital, Inc., the venture capital subsidiary of Indiana University Health, a role he had held since 2007. Mr. Neff started his career as a practicing lawyer and Partner at Baker & Daniels. He then served as the Deputy to the Chairman of the Federal Housing Finance Board (now known as the Federal Housing Finance Agency) in the first Bush Administration. Thereafter, he became the co-founder and Chief Executive Officer of two Indianapolis companies: Circle Investors, an insurance holding company then chaired by former Vice President of the United States, Dan Quayle, and Senex Financial Corp., a healthcare receivables finance company. Mr. Neff currently serves on the Board of Directors of Fairbanks Addiction Treatment Center and was a member of Riley Children's Foundation's Board of Directors from January 2000 to November 2012. Mr. Neff earned his bachelor's degree and graduated a Phi Beta Kappa from DePauw University. He also received his Juris Doctor degree from Indiana University. Mr. Neff's legal expertise, financial acumen, knowledge of our industry and leadership background, including AIT Laboratories, ideally situate him for service as a director.

**Wendy Perrow, MBA** was elected as a director of the Company on December 10, 2015. Ms. Perrow is Chief Executive Officer at AsclepiX Therapeutics. Ms. Perrow joined AsclepiX Therapeutics in 2016 as Chief Executive Officer. Prior to joining AsclepiX Therapeutics, Ms. Perrow was Chief Executive Officer at Alba Therapeutics and held senior executive marketing positions with private and public pharmaceutical companies. From 2004 to 2007, she was Vice President of Marketing and Sales for Sigma-Tau Pharmaceuticals, Inc. From 1989 to 2003, Ms. Perrow held positions at Merck and Co., Inc. in marketing, marketing promotion, international business research analysis, training, and sales. Ms. Perrow began her career in a division of Johnson & Johnson. Ms. Perrow holds a bachelor's degree from Eastern Illinois University and a Masters of Business Administration degree in finance and marketing from Duke University - The Fuqua School of Business. Ms. Perrow's active involvement in the therapeutics industry, her educational background and her leadership experience, facilitate her significant contributions as a director.

The Board of Directors has established an Audit Committee. The Audit Committee is responsible for, among other items, engaging and overseeing the independent auditors, reviewing, in connection with the independent auditors, (i) the audit plan, (ii) the adequacy of internal controls, (iii) the audit report and (iv) management's letter, and undertaking such other incidental functions as the board may authorize. R. Matthew Neff, Gregory C. Davis, Wendy Perrow and Richard A. Johnson are the members of the Audit Committee. The Board of Directors has determined that Mr. Neff is an audit committee financial expert (as defined by Item 401(h) of Regulation S-K). All of the members of the Audit Committee are "independent" (as defined by Item 7(d)(3)(iv) of Schedule 14A).

The Board of Directors has adopted a Code of Ethics (as defined by Item 406 of Regulation S-K) that applies to the Company's Officers, Directors and employees, a copy of which is incorporated herein by reference to Exhibit 14 to Form 10-K for the fiscal year ended September 30, 2006.

*SECTION 16(a) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE*

Section 16(a) of the Securities Exchange Act of 1934 requires the Company's directors and executive officers and persons who beneficially own more than ten percent of BASi's Common Shares to file with the Securities and Exchange Commission reports showing ownership of and changes in ownership of BASi's Common Shares. On the basis of information available to us, we believe that all Section 16 filing requirements were met for fiscal 2018.

***ITEM 11 - EXECUTIVE COMPENSATION***

The information included under the captions "Elections of Directors – Non-employee Director Compensation and Benefits" and "Compensation of Executive Officers" in the Proxy Statement for the 2019 Annual Meeting is incorporated herein by reference in response to this item.

***ITEM 12 - SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS***

The information contained under the “Principal Shareholders Table” in the Proxy Statement for the 2019 Annual Meeting and Item 5 of this report is incorporated by reference in response to this item.

For additional information regarding our stock option plans, please see Note 9 in the Notes to the Consolidated Financial Statements in this report.

***ITEM 13 - CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE***

The information included under the captions “Certain Relationships and Related Transactions” and “Election of Directors – Board Independence” in the Proxy Statement for the 2019 Annual Meeting is incorporated herein by reference in response to this item.

***ITEM 14 - PRINCIPAL ACCOUNTING FEES AND SERVICES***

The information included under the caption “Selection of Independent Registered Accounting Firm” in the Proxy Statement for the 2019 Annual Meeting is incorporated herein by reference in response to this item.

**PART IV**

***ITEM 15 - EXHIBITS, FINANCIAL STATEMENT SCHEDULES***

(a) Documents filed as part of this Report.

1. Financial Statements: See Index to Consolidated Financial Statements under Item 8 on Page 30 of this report.
2. Financial Statement Schedules: Schedules are not required, are not applicable or the information is shown in the Notes to the Consolidated Financial Statements.
3. Exhibits: See Index to Exhibits, which is incorporated herein by reference.

**SIGNATURES**

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

BIOANALYTICAL SYSTEMS, INC.  
(Registrant)

Date: December 21, 2018  
By: /s/ Philip A. Downing  
Philip A. Downing  
Senior Vice President, Preclinical Services  
(Acting Principal Executive Officer)

Date: December 21, 2018  
By: /s/ Jill C. Blumhoff  
Jill C. Blumhoff  
Chief Financial Officer and Vice President of Finance (Principal Financial Officer and Principal Accounting Officer)

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

<b>Signature</b>	<b>Capacity</b>	<b>Date</b>
/s/ Gregory C. Davis, Ph.D. Gregory C. Davis, Ph.D.	Chairman	December 21, 2018
/s/ R. Matthew Neff R. Matthew Neff	Director	December 21, 2018
/s/ Richard A. Johnson, Ph.D. Richard A. Johnson, Ph.D.	Director	December 21, 2018
/s/ Wendy Perrow, MBA Wendy Perrow, MBA	Director	December 21, 2018
/s/ John E. Sagartz, DVM, Ph.D., DACVP John E. Sagartz, DVM, Ph.D., DACVP	Director	December 21, 2018



**EXHIBIT INDEX**

**Number Description of Exhibits**

(2) 2.1 Asset Purchase Agreement (the “Purchase Agreement”), dated July 2, 2018, by and among Bioanalytical Systems, Inc., Cardinal Laboratories LLC, Seventh Wave Laboratories, LLC and the members of Seventh Wave Laboratories, LLC.

(3) 3.1 Second Amended and Restated Articles of Incorporation of Bioanalytical Systems, Inc. as amended through May 9, 2011 (incorporated by reference to Exhibit 3.1 to Form-10Q for the quarter ended June 30, 2011).

3.2 Second Amended and Restated Bylaws of Bioanalytical Systems, Inc., as subsequently amended (incorporated by reference to Exhibit 3.2 to Form 10-K for the year ended September 30, 2015).

(4) 4.1 Specimen Certificate for Common Shares (incorporated by reference to Exhibit 4.1 to Registration Statement on Form S-1, Registration No. 333-36429).

4.2 Certificate of Designation of Preferences, Rights, and Limitations of Convertible Preferred Shares (incorporated by reference to Exhibit 3.1 on Form 8-K, dated May 12, 2011).

4.3 Specimen Certificate for 6% Series A Convertible Preferred Shares (incorporated by reference to Exhibit 4.3 to Registration Statement on Form S-1, Registration No. 333-172508).

(10) 10.1 Agreement for Lease, by and among Bioanalytical Systems, Inc., Bioanalytical Systems Limited and Pettifer Estates Limited, dated October 11, 2007 (incorporated by reference to Exhibit 10.1 to Form 8-K filed October 17, 2007).

10.2 Form of Lease, by and among Bioanalytical Systems, Inc., Bioanalytical Systems Limited and Pettifer Estates Limited (incorporated by reference to Exhibit 10.2 to Form 8-K filed October 17, 2007).

10.3 Bioanalytical Systems, Inc. 2008 Director and Employee Stock Option Plan (\*) (incorporated by reference to Appendix A to the Revised Definitive Proxy Statement filed February 5, 2008, SEC File No. 000-23357).

10.4 Form of Employee Stock Option Agreement under Bioanalytical Systems, Inc. 2008 Director and Employee Stock Option Plan (\*) (incorporated by reference to Exhibit 10.4 to Form 10-K for the year ended September 30, 2017).

10.5 Form of Director Stock Option Agreement under Bioanalytical Systems, Inc. 2008 Director and Employee Stock Option Plan (\*) (incorporated by reference to Exhibit 10.5 to Form 10-K for the year ended September 30, 2017).

Form of Securities Purchase Agreement between Bioanalytical Systems, Inc. and certain purchasers, dated May 10.65, 2011 (incorporated by reference to Exhibit 10.27 to Registration Statement on Form S-1, Registration No. 333-172508).

10.7 Lease Agreement between Bioanalytical Systems, Inc. and Cook Biotech, effective January 28, 2015 (incorporated by reference to Exhibit 10.1 to the Form 10-Q filed May 15, 2015).

10.8 Employment Agreement, by and between Bioanalytical Systems, Inc. and Jill C. Blumhoff effective May 13, 2016 (incorporated by reference to Exhibit 10.1 to Form 8-K, dated May 13, 2016).\*

10.9 Employee Incentive Stock Option Agreement between Jill C. Blumhoff and Bioanalytical Systems, Inc., dated May 13, 2016 (incorporate by reference to Exhibit 10.4 to Form 10-Q filed August 15, 2016).\*

- 10.10 Settlement Agreement and Release of All Claims, by and between Bioanalytical Systems, Inc. and Jacqueline M. Lemke (incorporated by reference to Exhibit 10.1 to Form 8-K filed January 17, 2017).
- 10.11 Fifth Forbearance Agreement and Sixth Amendment to Credit Agreement between Bioanalytical Systems, Inc. and The Huntington Bank, effective January 31, 2017 (incorporated by reference to Exhibit 10.1 to Form 8-K filed February 1, 2017).
- 10.12 Credit Agreement between Bioanalytical Systems, Inc. and First Internet Bank, effective June 23, 2017 (incorporated by reference to Exhibit 10.1 to Form 10-Q filed August 14, 2017).
- 10.13 Dr. James S. Bourdage Retirement Agreement and Release of All Claims (incorporated by reference to the Company's Current Report on Form 8-K filed April 30, 2018).
- 10.14 First Amendment to Credit Agreement, dated July 2, 2018, between Bioanalytical Systems, Inc. and First Internet Bank (filed herewith).
- 10.15 Second Amendment to Credit Agreement, dated September 6, 2018, between Bioanalytical Systems, Inc. and First Internet Bank (filed herewith).
- 10.16 Third Amendment to Credit Agreement, dated September 28, 2018, between Bioanalytical Systems, Inc. and First Internet Bank (incorporated by reference to Exhibit 10.1 to Form 8-K filed October 4, 2018).
- 10.17 Commercial Lease Agreement, effective July 16, 2018, between Seventh Wave Laboratories, LLC (f/k/a Cardinal Laboratories LLC) and SWL Properties LLC (filed herewith).
- 10.18 Lease Term and Sublease Termination Agreement, effective July 16, 2018, by and among Seventh Wave Laboratories, LLC (f/k/a Cardinal Laboratories LLC), SWL Properties LLC and SWL Chrysalis, LLC (f/k/a Seventh Wave Laboratories, LLC) (filed herewith).
- 10.19 Employment Agreement, by and between Bioanalytical Systems, Inc. and John E. Sagartz, DVM, Ph.D., DACVP, effective October 5, 2018 (filed herewith).\*
- (14) 14.1 Code of Ethics (incorporated by reference to Exhibit 14 to Form 10-K for the fiscal year ended September 30, 2006).
- (21) 21.1 Subsidiaries of the Registrant (filed herewith).
- (23) 23.1 Consent of Independent Registered Public Accounting Firm RSM US LLP (filed herewith).
- (31) 31.1 Certification of Acting Principal Executive Officer (filed herewith).

31.2 Certification of Chief Financial Officer (filed herewith).

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(32) 32.1 Written Statement of Acting Principal Executive Officer Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (18 U.S.C. Section 1350) (filed herewith).

32.2 Written Statement of Chief Financial Officer Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (18 U.S.C. Section 1350) (filed herewith).

101 XBRL data file (filed herewith).

\*Management contract or compensatory plan or arrangement.

Certain schedules and exhibits referenced in the Sale and Purchase Agreement have been omitted in accordance with Item 601(b)(2) of Regulation S-K. A copy of any omitted schedule and/or exhibit will be furnished supplementally to the Securities and Exchange Commission upon request.