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, 2019.

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

(765) 463-4527
(Registrant's telephone number, including area code)

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

Title of each class	Trading Symbols	Name of exchange on which registered
Common Shares	BASi	NASDAQ Capital Market

Securities registered pursuant to section 12(g) of the Act: None

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 ☒

Based on the closing price on the NASDAQ Capital Market on March 31, 2019, the aggregate market value of the voting and non-voting common equity held by non-affiliates of the registrant was $15,178,000. As of December 19, 2019, 10,510,694 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.

TABLE OF CONTENTS

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, chemical, and medical device industries, and sells analytical instruments to the pharmaceutical development and contract research industries. Our mission is to provide product developers with superior scientific research and innovative analytical instrumentation in order to bring revolutionary new products to market quickly and safely. Our strategy is to provide services that will generate high-quality and timely data in support of new product approval or expand their use. Our clients and partners include pharmaceutical, biotechnology, biomedical device, 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 products 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 product approvals through the Food and Drug Administration ("FDA") and other regulatory authorities is an established alternative to in-house product development efforts. We derive our revenues from sales of our research services and instruments, both of which are focused on evaluating product safety and efficacy. The Company has been involved in the research of products to treat diseases in numerous therapeutic areas for over 45 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 primarily small molecule drug candidates, but also including biotherapeutics and devices. Our scientists have the skills in analytical instrumentation development, chemistry, computer software development, histology, pathology, physiology, medicine, surgery, analytical chemistry, drug metabolism, pharmacokinetics, 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 therapies.

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 product 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 smaller, 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 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 clients as they look for alternatives to the large CROs that cater primarily to the large pharmaceutical company segment of the marketplace.

Industry Overview

Drug discovery and development is the process of creating drugs for the treatment of human and animal 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 primarily 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 and device 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 or device 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 and device 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. In addition, recent consolidation within the contract research industry has created a unique opportunity for the emergence of mid-market providers who can offer clients a high degree of "touch" not only in study execution, but in program design and regulatory agency interactions.

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 client 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 drug candidates requires highly specialized, innovative, solution-driven research not available in all client 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 product 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 candidate can be initially tested in humans. Once a pharmacologically active molecule is fully analyzed to confirm its potential utility, 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 evaluation of drug candidates 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 observable 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.) are performed to allow the drug to proceed through clinical development and to support product registration.

Exhaustive safety, tolerability and dosing regimens are established in 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 poorly-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 and device 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 $39.0 million for fiscal 2019. 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 developed and 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 identify and 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 nonclinical 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 drug candidates at our facility in St. Louis.
- ***Non-clinical Toxicology and Pathology Services****:* We provide safety testing in studies ranging from acute safety monitoring of drugs and medical devices to chronic, multi-year oncogenicity studies in our St. Louis, Gaithersburg, and Evansville sites. At our Gaithersburg site, safety evaluation focused on developmental and reproductive toxicology is also conducted. Our capabilities in toxicologic pathology and evaluation of tissues from animal efficacy models are located in our St. Louis site. Our site in Fort Collins offers surgical modeling and focused evaluation of biomedical devices.
- ***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 $4.6 million for fiscal 2019. 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.

Clients

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 8.6% of our revenues were generated from clients outside of North America in fiscal 2019 and 2018, respectively.

In fiscal 2019 our Services group continued its presence at several important existing clients. In fiscal 2019, one client accounted for approximately 6.7% of total sales and 8.0% of total trade accounts receivable at September 30, 2019. In fiscal 2018 this client accounted for approximately 11.2% of total sales and 4% of total trade accounts receivable at September 30, 2018. The client 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 client 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 clients 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, 2019, 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. To promote our products, 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, clients 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 client upon written notice of 30 days or less for a variety of reasons, including the client'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 clients 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 clients' specific needs and superior technical support and service. We provide equipment that enables our clients to attain premium scientific laboratory information on a reasonable operating investment. As clients' 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. The FDA has inspected our West Lafayette location twenty-two times and our Evansville location six times, our St. Louis, MO location three times and our Gaithersburg, MD location three times. Of the thirty-four FDA inspections, twenty-two 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 client or covered by the client's liability insurance policies. Also, in certain types of engagements, we seek to limit our contractual liability to clients to the amount of fees received. Our client contractual arrangements are subject to negotiation, and the terms and scope of indemnification, liability limitation and insurance coverage vary by client and project.

Research and Development

In fiscal 2019 and 2018, we spent $627 and $596, 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 Raturn® 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 2019 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, 2019, we had 311 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

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.

Name	Age	Position
Robert W. Leasure, Jr.	60	President and Chief Executive Officer
John E. Sagartz, DVM, PhD, DACVP	53	Chief Strategy Officer
Jill C. Blumhoff	43	Chief Financial Officer, Vice President-Finance
William Pitchford	65	Chief Human Resources Officer
D. Thomas Oakley	62	Chief Operations Officer
Joseph Flynn	54	Chief Commercial Officer
Philip A. Downing	49	Senior Vice President, Preclinical Services
Michael A. Baim, Ph.D.	62	Senior Vice President, Analytical Operations

Robert Leasure, Jr. joined the Company as President and Chief Executive Officer on January 12, 2019. Mr. Leasure serves as the managing partner and president of LS Associates LLC ("LS"), a management and turnaround firm formed in 2002. From September of 2016 until Mr. Leasure's employment, the Company engaged LS as a financial consultant. Mr. Leasure's experience working with management teams in areas including strategic planning and implementation, problem solving, operations, mergers and acquisitions and financial transactions, and in particular Mr. Leasure's experience leading the Company's turnaround and current growth, well situate him for his role as President and Chief Executive Officer and as a director.

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.

William D. Pitchford joined the Company as Chief Human Resources Officer on August 28, 2019. Prior to joining the Company, Mr. Pitchford held senior level positions within the human resources functions at Ford Motor Company, Rio Tinto Alcan Corporation and, most recently, at Wabash National Corporation as Senior Vice President of Human Resources. Mr. Pitchford received his undergraduate degree in Criminology & Sociology at Indiana State University, and his Master of Arts in Human Resources Management at Central Michigan University.

D. Thomas Oakley was appointed COO of the Company on February 11, 2019, and is responsible for leading its operations among four sites. Mr. Oakley joined the Company as part of the Seventh Wave acquisition in 2018, where Oakley previously served as CEO. Prior to his tenure at Seventh Wave Laboratories, Mr. Oakley led DTO Associates and served as President and COO of MPI Research, President and CEO of ChanTest Corporation, and President and CEO of Bridge Laboratories. He has also held leadership positions with the Sarah Cannon Research Institute and Covance. He served in the United States Army, from which he was honorably discharged with the rank of Captain. Mr. Oakley holds an MBA in management, finance and accounting from the J.L. Kellogg Graduate School of Management at Northwestern University, and a BA in Economics from Ripon College.

Joe Flynn joined the Company in July 2018 as part of the Seventh Wave acquisition. He was appointed to his current role as the Chief Commercial Officer in February 2019. In this role, Joe is responsible for leading sales and marketing efforts across BASi's four sites. Mr. Flynn has an esteemed career as a senior executive in contract research, with over 25 years of strategic and operational experience focusing on pharmaceutical research and development. Most recently, he served as Chief Commercial Officer and Executive Vice President of Seventh Wave Laboratories. Prior to his tenure at Seventh Wave Laboratories, Mr. Flynn was a global vice president of sales and client services for multiple divisions of Covance Laboratories. Prior to Covance, he held operational roles at PPD Inc. and ABC Laboratories (now Eurofins). Mr. Flynn began his career with a BS in Biochemistry from the University of Missouri, Columbia.

Philip Downing has over 22 years of pharmaceutical experience in drug discovery, toxicology/non-clinical, and clinical research. Traditionally trained as a bioanalytical chemist, Philip joined the Company 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. Prior to BASi, Philip 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. He 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.

Michael Baim, Ph.D. joined the Company in May 2018 as Senior VP of Analytical Operations. Dr. Baim is an energetic and passionate leader who brings to BASi over thirty years of experience in the pharmaceutical and lab management industries. He is well-versed in analytical methodology and project design, and has a proven track record of delivering significant and sustainable profitable growth across many different business segments. Dr. Baim began his career at The Procter & Gamble Company in 1984, and has since held several leadership, management and technical positions at other prominent companies including Novartis and Bristol-Myers Squibb/Mead Johnson. Most recently, he served as an analytical laboratory director, designing a new analytical chemistry lab and revitalizing chemistry operations by adding new technologies and staff to optimize technical guidance and improve customer service. These efforts resulted in a sustained, double-digit growth rate for the company. Dr. Baim received his BA in chemistry from Whitman College in Washington State. He then studied analytical chemistry as an American Chemical Society Analytical Research Fellow at Washington State University, where he earned his PhD. He is currently working towards his MBA in marketing management.

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. 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

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. 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 and Smithers Avanza's businesses 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 clients 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 clients in these industries also affect our business.

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

Five clients accounted for approximately 22.6% of our total revenue in fiscal 2019 and four clients accounted for approximately 32% of our total revenues in fiscal 2018. The loss of a significant amount of business from one of our major clients would materially and adversely affect our results of operations until such time, if ever, as we are able to replace the lost business. Significant clients or projects in any one period may not continue to be significant clients 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 clients, the importance of a single client may vary dramatically from year to year as projects end and new projects begin. To the extent that we are dependent on any single client, we are subject to the risks faced by that client if such risks impede the client's ability to stay in business and make timely payments to us.

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

Most of our contracts for CRO services are terminable by the client upon 30 days' notice. Clients 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 client 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 acquisitions of the assets of Seventh Wave Laboratories, LLC and Smithers Avanza Laboratories, 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 clients 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 client, 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 clients, 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 clients 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 clients' 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 clients requiring us to be indemnified by the clients or covered by the clients' product liability insurance policies. Although many of our clients 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, client 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 clients. 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 clients. 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 clients.

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 clients 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 client demand for some of our products or services, which could cause our revenue to decline. Also, our clients, 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. We also maintain insurance for this risk.

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 Acquisitions of the Assets of Seventh Wave Laboratories, LLC and Smithers Avanza Toxicology Services 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 and Smithers Avanza Toxicology Services LLC acquisitions, 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 and Smithers Avanza Toxicology Services 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 and Smithers Avanza Toxicology Services LLC poses certain incremental risks to the Company.

The incremental risks posed by the acquisitions of the assets of Seventh Wave Laboratories, LLC and Smithers Avanza Toxicology Services 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 and Smithers Avanza Toxicology Services LLC businesses have with suppliers and clients.

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. The leased space is leased to an unrelated third party that pays a market rental rate. 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. This space should be available for occupancy and operations in fiscal 2020.

• **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. We currently operate in approximately 35,000 square feet of this building. Use of the remaining 15,000 square feet would require further investment. 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.

• **BASi Gaithersburg, LLC's** operations are located in Gaithersburg, MD. We occupy 2 buildings with roughly 40,000 square feet of operating and administrative space. Most of this site is engaged in contract research services. These buildings are leased.

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, 2019, our common shares were traded on the NASDAQ Capital Market under the symbol "BASi".

Holders

There were approximately 2,700 holders of record of our common shares as of December 14, 2019.

Dividends

We did not pay any cash dividends on our common shares in fiscal years 2019 or 2018 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 and Executive Summary

Over the last eighteen months, we have undertaken significant internal and external growth initiatives. We acquired the business of Seventh Wave Laboratories, LLC, in July 2018, commenced the expansion of our facilities in Evansville, Indiana, in October 2018, which has been substantially completed and should be validated by March 2020, acquired the toxicology business of Smithers Avanza on May 1, 2019, acquired the preclinical testing business of Pre-Clinical Research Services on December 1, 2019 and obtained funding to support these initiatives and other improvements to our facilities and equipment in order to support future growth and enhance our scientific capabilities, client service offerings and client experiences. In addition to the aquisitions and facility expansions and improvements, during the year ended September 30, 2019, we recruited and filled open positions for Chief Executive Officer, Chief Human Resources Officer, Chief Operations Officer, Chief Commercial Officer and critical scientific leadership roles of Senior Vice President for DMPK and Vice President for Pathology. We believe these leaders, combined with our existing management team and expansion initiatives, development of our sales and marketing team and the hiring of new employees to develop our scientific team, have led and will continue to lead to growth in revenue and the ability to improve the service offerings to our clients. We recognize the recent investments in growth, developing a leadership team, new employees, scientific strength and added services are critical to meeting the future expectations of our clients, employees and shareholders. We believe, the actions and investments over the last year have allowed the Company to form a foundation upon which we can build. Our financial results have been in line with management's expectations for fiscal 2019. Our new orders remain strong and we believe we are on track with our goals and plans for fiscal 2020.

The acquisition 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, was completed under the terms and conditions of an Asset Purchase Agreement, dated July 2, 2018 (the "Seventh Wave Acquisition"). In connection with the Seventh Wave Acquisition, on July 2, 2018 the Company and First Internet Bank entered into an amendment to the Company's credit arrangements. Refer to the Liquidity and Capital Resources Section herein for additional information. We have been capitalizing on the collective skill sets, expertise and assets acquired via the Seventh Wave 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 provided 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 substantially completed and expected to be validated by March 2020.

On May 1, 2019, we acquired certain toxicology-related assets of Smithers Avanza Toxicology Services LLC, a consulting-based contract research laboratory located in Gaithersburg, Maryland providing in-vivo mammalian toxicology CRO services for pharmaceuticals (small molecules and biologics), vaccines, agro and industrial chemicals (the "Smithers Avanza Acquisition"). In connection with the Smithers Avanza Acquisition, on May 1, 2019, the Company and First Internet Bank entered into an amendment to the Company's credit arrangements. Refer to Note 11 to the Condensed Consolidated Financial Statements for additional information. We have and anticipate continuing to taking advantage of the increased capacity in Gaithersburg while making investments and hiring in order to further increase capacity. We expect to further capitalize on the assets and broadened scientific expertise acquired via the Smithers Avanza Acquisition to reach additional clients.

On December 1, 2019, we acquired certain preclinical testing-related assets, the building and real estate of Pre-Clinical Research Services, Inc. ("PCRS"), a consulting-based laboratory located in Fort Collins, Colorado providing surgical and medical device contract research services. In connection with the PCRS Acquisition, on December 1, 2019, the Company and First Internet Bank entered into an amendment to the Company's credit arrangements. Refer to Note 15 to the Condensed Consolidated Financial Statements for additional information.

We are working on the integration of the combined businesses resulting from the Seventh Wave Acquisition, the Smithers Avanza Acquisition and the PCRS Acquisition. We plan to further develop our sales, marketing, client services and branding. We will continue to evaluate additional internal and external growth opportunities and new services to provide to existing clients. We will also continue our efforts to develop existing services into "Centers of Excellence" to distinguish our services in the industry.

Business Overview

The Company provides contract research services to pharmaceutical, agrochemical and medical device companies, biomedical research organizations and government sponsored research centers. The Company integrates innovative laboratory services into its consultative practice to support clients' drug discovery and development objectives for improved decision-making in toxicology, metabolism and disposition and regulated bioanalysis. Our manufacture of scientific instruments and related software for life sciences research is another component of creating innovative solutions for clients. Our clients are located throughout the world. 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.

We support both the non-clinical and clinical development needs of researchers and clinicians primarily for small molecule drug candidates, but also including chemical products and biomedical devices. 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 and medical devices.

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 "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 industries we serve has turned to out-sourcing to both reduce fixed costs and to increase the speed of research and data development necessary for new drug and device applications. The number of significant drugs or devices 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 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 clients as they look for alternatives to the large CROs that cater primarily to the large pharmaceutical company segment of the marketplace.

While continuing to maintain and develop our relationships with large pharmaceutical companies, we 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 clients 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. 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 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. Positive cash flow and access to capital will be important to our ability to make such investments.

Over the last two years, we were able to see our 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 multiple acquisitions. Our goals included increasing revenue on a consistent basis while investing and adding additional talent, adding to capacity and complementary services. During fiscal 2019, in addition to closing the Smithers Avanza Acquisition and the expansion of our Evansville facility, we have concentrated efforts and investments on recruiting and filling critical leadership and scientific positions, 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.

We completed the Seventh Wave Acquisition in July 2018 and the Smithers Avanza Acquisition in May 2019, during the third quarter of fiscal 2019. We believe these acquisitions will allow us to capitalize on the collective skill sets, expertise and assets of the combined operations to expand our service offerings and reach more clients. We believe further that these acquisitions have provided the Company additional support for further corporate development, and additional sales talent to help drive profitable growth. With the acquisitions, we have more than doubled our active client base, enhanced client service offerings and have the ability to reduce expenses for services previously outsourced by the newly combined entities. In addition, the combined operations provide an opportunity to develop and integrate support services and leverage relevant software.

Our long-term strategic objectives are to be a Company people want to be a part of that is respected by clients for its excellence in service, products and performance, and to maximize the Company's intrinsic value per share. Our goals include increasing revenue on a consistent basis, while investing and adding additional talent and complementary services in order to deliver excellent data and results for our clients. We intend to continue enhancing our business development and client services programs and marketing efforts, increasing our visibility in the marketplace and building our sales team. We also intend to complete ongoing Company-wide activities intended to enhance the employee experience, client experience and streamline our communication, systems and operations. We have seen our sales and backlog grow as we continue to promote our vision.

During fiscal 2019, we have continued to invest in Products research and development in order to upgrade current products and to identify potential new products. We have also further developed and expanded our relationships with

distributors and resellers to boost sales in our Products business. We continue to evaluate 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 clients and prospective partners. We believe these measures will prepare us for growth in the long term.

We plan to continue to emphasize establishing a positive culture, which we believe has significantly reduced our employee turnover and will facilitate our continued recruitment and retention of talent.

We review various metrics to evaluate our financial performance, including revenue, margins and earnings. In the fiscal year ended September 30, 2019, total revenues increased from $26,346 to $43,616, a 65.6% increase. Gross profit increased from $8,116 to $12,921, a 59.2% increase. Operating expenses were higher by 61.4% as compared to fiscal 2018. The most notable growth in operating expenses is related to our investment and focus in sales and marketing efforts to promote our brand as well as costs related to adding to the leadership team and costs related to acquisitions. The latest acquisitions were closed May 1, 2019 and December 1, 2019. There was an operating loss of $153 for fiscal 2019, compared to operating income of $14 for fiscal 2018.

As of September 30, 2019, we had $606 of cash and cash equivalents as compared to $773 of cash and cash equivalents at the end of fiscal 2018. In fiscal 2019, we generated $1,777 in cash from operations as compared to $3,487 in fiscal 2018. Total capital expenditures increased in fiscal 2019 to $6,878 from $1,317 in the prior year period as we began the expansion at our Evansville facility and invested in laboratory and IT equipment at all sites.

As of September 30, 2019, we had a $1,063 balance on our $3,500 general line of credit, a $655 balance on our $1,100 capex line of credit, and a $4,301 balance on our construction line of credit. As described herein, we incurred significant additional indebtedness in connection with financing the Seventh Wave Acquisition and the Smithers Avanza Acquisition and expect to incur additional indebtedness through borrowings under the construction and equipment lines of credit as we continue to undertake the Evansville, Indiana facilities expansion.

For a detailed discussion of our revenue, margins, earnings and other financial results for fiscal 2019, see "Results of Operations" below.

Results of Operations

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

	Year Ended September 30,	
	2019	**2018**
Services revenue	89.5%	85.2%
Products revenue	10.5	14.8
Total revenue	100.0%	100.0%
Cost of services revenue [(a)]	70.9	70.9
Cost of products revenue [(a)]	65.5	59.5
Total cost of revenue	70.4	69.2
Gross profit	29.6	30.8
Operating expenses	30.0	30.8
Operating income (loss)	(0.4)	0.0
Other income (expense)	(1.5)	(1.0)
Income (loss) before income taxes	(1.9)	(1.0)
Income tax (expense) benefit	(0.0)	0.2
Net income (loss)	(1.9)%	(0.8)%

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

2019 Compared to 2018

Services and Products Revenues

Revenues for the year ended September 30, 2019 increased 65.6% to $43,616 compared to $26,346 for the year ended September 30, 2018.

Our Services revenue increased 74.0% in fiscal 2019 to $39,048 compared to $22,440 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 acquisition and full year performance of Seventh Wave Laboratories that added $7,060 in fiscal 2019. The acquisition of BASi Gaithersburg in May 2019 added $4,267 in fiscal 2019. Bioanalytical analysis revenues increased due to an increase in the revenues attributable to the full year performance of Seventh Wave Laboratories acquisition of $1,889 and an increase in the legacy bionanalytical revenue by $418 due to higher samples received and analyzed in fiscal 2019. Other laboratory services revenues increased slightly impacted by higher pharmaceutical analysis and discovery revenues partly offset by lower archiving services revenues, in fiscal 2019.

	Fiscal Year Ended September 30,			
	2019	2018	Change $	%
Bioanalytical analysis	$ 7,279	$ 5,142	2,137	41.6%
Nonclinical services	29,583	15,205	14,378	94.6%
Other laboratory services	2,186	2,093	93	4.4%
	$ 39,048	$ 22,440	$ 16,608	74.0%

Sales in our Products segment increased 16.9% from $3,906 to $4,568 when compared to the prior fiscal year. The increase stems mainly from higher sales of Culex® automated *in vivo* sampling systems and related consumables, an increase in maintenance revenues as well as increase in sales of our analytical instruments and related consumables.

	Fiscal Year Ended September 30,			
	2019	2018	Change	%
Culex®, invivo sampling systems	$ 2,034	$ 1,750	$ 284	16.2%
Analytical instruments	1,831	1,583	248	15.7%
Other instruments	703	573	130	22.7%
	$ 4,568	$ 3,906	$ 662	16.9%

Cost of Revenue

Cost of revenue for the year ended September 30, 2019 was $30,695 or 70.4% of revenue compared to $18,230 or 69.2% of revenue for the prior fiscal year.

Cost of Services revenue as a percentage of Services revenue stayed constant at 70.9% in the current fiscal year as compared to the prior fiscal year. During fiscal year 2019, cost of services included the full year cost of Seventh Wave Laboratories as opposed to three months of cost of services in fiscal year 2018. In addition, fiscal year 2019 cost of services also included the costs related to the service operations at BASi Gaithersburg.

Cost of Products revenue as a percentage of Products revenue in fiscal 2019 increased to 65.5% from 59.5% in the prior fiscal year. This increase is mainly due to the mix of sales favoring lower-margin products and reflects the increases in few of our raw materials.

Operating Expenses

Selling expenses for the year ended September 30, 2019 increased by 89.1% to $2,914 from $1,541 for the year ended September 30, 2018. This increase is mainly due to the addition of the two business development personnel from the BASi Gaithersburg acquisition and a full year of cost of the three business development personnel associated with the Seventh Wave Laboratories acquisition. Fiscal year 2018 cost included only three months of cost related to the Seventh Wave Laboratories personnel. In addition, commission attributable to the business development personnel increased as a result of increased sales. Higher travel expense in fiscal 2019 also contributed to the increase.

Research and development expenses for the year ended September 30, 2019 increased 5.2% to $627 from $596 for the year ended September 30, 2018. The increase was primarily due to higher consulting expenses and costs for operating supplies related to product development.

General and administrative expenses for fiscal 2019 increased 59.8% to $9,533 from $5,965 for the prior fiscal year. The increase was mainly driven by the expenses associated with the Seventh Wave Laboratories and the Smithers Avanza acquisitions. We incurred approximately $439 in costs related to the acquisition in fiscal 2019 as compared to the $395 in fiscal year 2018. In addition, the increase was partly due to higher stock option expense attributable to grants of options to our directors and employees throughout fiscal 2019. Also, higher salaries and benefit related expenses from the additional employees were partly offset by the release of UK lease reserve.

Other Income/Expense

Other income/expense, net, was expense of $633 for the year ended September 30, 2019 as compared to expense of $268 for the year ended September 30, 2018. The primary reason for the change in expense was the increase in interest expense under our credit agreement with First Internet Bank related to the additional loans to finance the Smithers Avanza Acquisition and the Seventh Wave Acquisition as well as interest related to the Evansville expansion.

Income Taxes

Our effective tax rate for continuing operations for the year ended September, 30, 2019 was (0.5%) compared to 23.5% for the prior fiscal year. The current year expense relates primarily to state income and franchise taxes. The prior 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 had a $1,117 reserve for lease related costs and for legal and professional fees and other costs to remove improvements previously made to the facility. During fiscal 2019, the Company released portions of the reserve for lease related liabilities that were no longer owed due to the statute of limitations. For the year ended September 30, 2019, general and administrative expenses on the Condensed Consolidated Statements of Operations and Comprehensive Income (Loss) were reduced by $700 for the liability reduction. At September 30, 2019 and September 30, 2018, respectively, we had $349 and $1,117 reserved for the remaining liability. The reserve is classified as a current liability on the Condensed Consolidated Balance Sheets.

Liquidity and Capital Resources

Comparative Cash Flow Analysis

At September 30, 2019, we had cash and cash equivalents of $606 compared to $773 at September 30, 2018. In addition, at September 30, 2019 we had $2,437 available on our general line of credit, $1,287 available on our construction line of credit and $286 available on our equipment line of credit. As of 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.

Net cash provided by operating activities was $1,777 for the year ended September 30, 2019, compared to net cash provided by operating activities of $3,487 for the year ended September 30, 2018. Contributing factors to our cash from operations in fiscal 2019 were noncash charges of $2,717 for depreciation and amortization and $273 for stock option expense as well as an increase in accounts payable of $1,019, increase in accrued expenses of $849, and an increase in customer advances of $1,156 due to an increase in new orders as well as the addition of orders from the Seventh Wave and Smithers Avanza Acquisitions. These factors were partially offset by, among other items, an increase in accounts receivable of $3,087 and an increase in prepaid expenses and other assets of $107.

Days' sales in accounts receivable decreased slightly to 50 days at September 30, 2019 from 51 days at September 30, 2018 due to improved collection from clients. It is not unusual to see a fluctuation in the Company's pattern of days' sales in accounts receivable. Clients 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 2018 are non-cash 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 client 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.

Investing activities used $8,149 in fiscal 2019 due to cash paid for the Smithers Avanza acquisition of $1,271 and capital expenditures of $6,878. In fiscal 2018, the main use of cash was due to cash paid for the Seventh Wave acquisition of $6,759 and capital expenditures of $1,317. The capital expenditures in fiscal 2019 consisted of expansion at our Evansville facility and investments in laboratory and computing infrastructure equipment at all sites. The investing activity in fiscal 2018 consisted of investments in computing infrastructure, building improvements and laboratory equipment.

Financing activities provided $6,205 in fiscal year 2019 as compared to $4,926 provided in fiscal 2018. The main sources of cash in fiscal 2019 were from borrowings on the Construction loans and Capex line of credit for $4,301 and $655 respectively. Additional sources included borrowings on the long-term loan of $1,271 and net cash borrowed against the Revolving Credit Facility of $1,063. Total long-term debt payments were $909. Capital lease payments of $88 and payment of debt issuance costs of $94 also contributed to the use of cash. 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 Seventh Wave Acquisition. Total long-term debt payments were $331. Capital lease payments of $131 and payment of debt issuance costs of $113 also used cash.

Capital Resources

Credit Facility

On June 23, 2017, we entered into a Credit Agreement with First Internet Bank of Indiana ("FIB"), which Credit Agreement as of September 30, 2019 had been amended on July 2, 2018, September 6, 2018, September 28, 2018 and May 1, 2019 (as amended, the "Credit Agreement"). The Credit Agreement includes three term loans (the "Initial Term Loan", "Subsequent Term Loan," and "New Term Loan," respectively), a revolving line of credit (the "Revolving Facility"), a construction draw loan (the "Construction Draw Loan"), an equipment draw loan (the "Equipment Draw Loan"), and a capital expenditure line of credit (the "Capex Line").

The Initial Term Loan for $4,500 bears interest at a fixed rate of 3.99%, with monthly principal and interest payments of approximately $33. The Initial Term Loan matures in June 2022. The balance on the Initial Term Loan at September 30, 2019 was $3,990. We used the proceeds from the Initial Term Loan to satisfy our indebtedness with Huntington Bank and terminated the related interest rate swap.

The July 2, 2018 amendment to the Credit Facility provided the Company with the Subsequent 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 of Seventh Wave Laboratories LLC. Amounts outstanding under the Subsequent Term Loan bear interest at a fixed per annum

rate of 5.06%, with monthly principal and interest payments equal to $78. The Subsequent Term Loan matures July 2, 2023 and the balance on the Subsequent Term Loan at September 30, 2019 was $4,715.

The Revolving Facility provides a line of credit for up to $3,500 which the Company may borrow from time to time, subject to the terms of the Credit Agreement, including as may be limited by the amount of the Company's outstanding eligible receivables. The Revolving Credit Facility 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 Facility was $1,062 and $0 as of September 30, 2019 and 2018, respectively. We must pay accrued and unpaid interest on the outstanding balance under the Revolving Facility on a monthly basis.

The September 28, 2018 amendment provided the Company with the Construction Draw Loan in a principal amount not to exceed $4,445 and the Equipment Draw Loan in a principal amount not to exceed $1,429. The Construction Draw Loan and Equipment Draw Loan each mature on March 28, 2025. As of September 30, 2019, there was a $3,158 balance on the Construction Draw Loan and a $1,143 balance on the Equipment Draw Loan.

Subject to certain conditions precedent, a Construction Draw Loan and an Equipment Draw Loan each permit the Company to obtain advances aggregating up to the maximum principal amount available for such loan through March 28, 2020. Amounts outstanding under these loans bear interest at a fixed per annum rate of 5.20%. The Construction Draw Loan and the Equipment Draw Loan each require 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.

In connection with the Smithers Avanza Acquisition, on May 1, 2019, as described in Note 9, the Company and FIB entered into a fourth amendment (the "Fourth Amendment") to the Credit Agreement to (i) extend the term of the Company's Revolving Facility to June 30, 2020, (ii) provide the Company with an additional term loan (the "New Term Loan") in the amount of $1,271, the proceeds of which were used to fund the cash consideration for the Smithers Avanza Acquisition, and (iii) provide for an additional line of credit in the principal amount of $1,100 (the "Capex Line"), which the Company may borrow from time to time, subject to the terms of the Credit Agreement. The New Term Loan and the Capex Line mature November 1, 2025 and June 30, 2020, respectively. As of September 30, 2019, the balances on the New Term Loan and Capex Line were $1,271 and $655, respectively.

Amounts outstanding under the New Term Loan bear interest at a fixed per annum rate of 4.63%, while interest accrues on the principal balance of the Capex Line at a floating per annum rate equal to the sum of the Prime Rate plus Fifty Basis Points (0.5%), which rate shall change concurrently with the Prime Rate. Commencing June 1, 2019, the New Term Loan requires monthly interest only payments until December 1, 2019, from which time payments of principal and interest in monthly installments of $20 become due, with all accrued but unpaid interest, cost and expenses due and payable at the maturity date. The Company is required to pay accrued but unpaid interest on the Capex Line on a monthly basis commencing on June 1, 2019, until June 30, 2020, at which time the entire balance of the Capex Line, together with accrued but unpaid interest, costs and expenses, shall be due and payable in full.

Following its amendment, the Company's obligations under the Credit Agreement are guaranteed by BAS Evansville, Inc. ("BASEV"), Seventh Wave Laboratories, LLC ("Seventh Wave"), as well as BASi Gaithersburg LLC ("BASi Gaithersburg"), each a wholly owned subsidiary of the Company. The Company's obligations under the Credit Agreement and BASEV's, Seventh Wave's and the BASi Gaithersburg's obligations under their respective Guaranties are secured by first priority security interests in substantially all of the assets of the Company, BASEV, Seventh Wave and the BASi Gaithersburg respectively, as well as mortgages on the Company's and BASEV's facilities in West Lafayette, Indiana and Evansville, Indiana, respectively, and pledges of the Company's ownership interests in its subsidiaries.

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. The Credit Agreement also requires us to maintain (i) a minimum debt service coverage ratio of not less than 1.25 to 1.0 for the period ended June 30, 2019 (with ratios ranging from 1.25 to 1.0 to 1.15 to 1.0 for the periods thereafter) and (ii) beginning with the quarter ended March 31, 2020, a cash flow coverage ratio whereby, the ratio of the Company's total funded debt (as defined in the Credit Agreement) as of the last day of each fiscal quarter to its EBITDA (as defined in the Credit Agreement) for the 12 months ended on such date may not exceed 4.50 to 1.00 (5.0 to 1.0 for the period ended March 31, 2020). 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. The Company was in compliance with these covenants as of September 30, 2019. The Company has also agreed to obtain a life insurance policy in an amount not less than $2,000 for its President and Chief Executive Officer and to provide FIB an assignment of such life insurance policy as collateral.

Additionally as part of the Smithers Avanza Acquisition, we have an unsecured promissory note payable to the Smithers Avanza Seller in the initial principal amount of $810 made by BASi Gaithersburg and guaranteed by the Company. The promissory note bears interest at 6.5%.

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 2020 are expected to consist primarily of cash generated from operations, cash on-hand and additional borrowings available under our Credit Agreement, as amended May 1, 2019. 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

Service revenue

The Company enters into contracts with clients to provide drug discovery and development services with payments based on mainly fixed-fee arrangements. The Company also offers free archive storage services on certain contracts. Clients can also enter into separate archive storage contracts after the expiration of the free storage period.

The Company's drug discovery and development services contracts that include a free storage period are considered a single performance obligation because the company provides a highly integrated service. The inclusion of free storage fee in the measurement of progress under the discovery and development service contracts creates a timing difference between the amounts the company is entitled to receive in reimbursement of cost incurred and amount of revenue recognized on such costs, which is recognized as deferred revenue and classified as client advances on the condensed consolidated balance sheet.

The Company's fixed fee arrangements may involve bioanalytical and pharmaceutical method development and validation, nonclinical research services and the analysis of bioanalytical and pharmaceutical samples. For bioanalytical and pharmaceutical method validation services and nonclinical research services, revenue is recognized over time using the input method based on the ratio of direct costs incurred to total estimated direct costs. For contracts that involve method

development or the analysis of bioanalytical and pharmaceutical samples, revenue is recognized over time when samples are analyzed or when services are performed. The Company generally bills for services on a milestone basis. These contracts represent a single performance obligation and due to the Company's right to payment for work performed, revenue is recognized over time. Research services contract fees received upon acceptance are deferred until earned, and classified within client advances on the condensed consolidated balance sheet. Unbilled revenues represent revenues earned under contracts in advance of billings.

Archive services provide climate controlled archiving for client's data and samples. The archive revenue is recognized over time, generally when the service is provided. These arrangements typically include only one performance obligation. Amounts related to future archiving or prepaid archiving contracts for clients 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.

Product revenue

The Company's products can be sold to multiple clients and have alternative use. Both the transaction sales price and shipping terms are agreed upon in the client order. For these products, all revenue is recognized at a point in time, generally when title of the product and risk of loss is transferred to the client based upon shipping terms. These arrangements typically include only one performance obligation. Certain products have maintenance agreements available for clients to purchase. These are typically billed in advance and are accounted for as deferred revenue and recognized ratably over the applicable maintenance period.

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 is 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, 2019 was Preclinical services, St. Louis services and Gaithersburg 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, St. Louis Services and Gaithersburg Services reporting units at September 30, 2019 and there was no indication of impairment.

At September 30, 2019 and 2018, respectively, the remaining recorded goodwill was $3,617 and $3,072.

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 of $278 and $134 during the fiscal years ended September 30, 2019 and 2018, 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 2019 and 2018 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, 2019 and 2018, we had a $0 liability for uncertain income tax positions, respectively.

We file income tax returns in the U.S. and several U.S. states. We are no longer subject to U.S. Federal tax examinations for years before 2015 or state and local for years before 2014, with limited exceptions.

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.

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

On October 1, 2018, the Company adopted Accounting Standard Codification, or ASC Topic 606, "*Revenue from Contracts with Customers*," (Topic 606), using the modified retrospective method for all contracts that were not completed as of October 1, 2018. Comparative prior period information continues to be reported under the accounting standards in effect for the period presented. Topic 606 superseded 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 clients 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 client; (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 cumulative effect of initially applying the new revenue standard was $(76) and has been recorded as an adjustment to the opening balance of retained earnings. The cumulative adjustment relates primarily to the recognition of revenue for free archive storage offered to clients. Gross sales and deferred revenue of $(76), respectively, were recorded as part of the cumulative effect adjustment. The comparative information has not been restated and it is reported in accordance with accounting standard Topic 605, which was in effect for those periods.

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. The amendments are to be applied prospectively to business combinations that occur after the effective date. The Company is progressing with its preparation for the adoption and implementation of this new accounting standard and related changes in internal controls and will adopt the standard in the first quarter of fiscal 2020.

ITEM 7A – QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Not applicable.

ITEM 8-FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Index to Consolidated Financial Statements

BIOANALYTICAL SYSTEMS, INC.
CONSOLIDATED BALANCE SHEETS
(In thousands, except share amounts)

	As of September 30, 2019	As of September 30, 2018
Assets		
Current assets:		
Cash and cash equivalents	$ 606	$ 773
Accounts receivable		
Trade, net of allowance of $1,759 at September 30, 2019 and $1,948 at September 30, 2018	7,178	4,128
Unbilled revenues and other	2,342	1,012
Inventories, net	1,095	1,182
Prepaid expenses	1,200	966
Total current assets	12,421	8,061
Property and equipment, net	22,828	16,610
Goodwill	3,617	3,072
Other intangible assets, net	2,874	3,318
Lease rent receivable	130	115
Deferred tax asset	31	62
Other assets	79	30
Total assets	$ 41,980	$ 31,268
Liabilities and shareholders' equity		
Current liabilities:		
Accounts payable	$ 4,941	$ 3,192
Restructuring liability	349	1,117
Accrued expenses	2,620	1,571
Customer advances	6,726	4,925
Revolving line of credit	1,063	—
Capex line of credit	655	—
Current portion of capital lease obligation	18	87
Current portion of long-term debt	1,109	909
Total current liabilities	17,481	11,801
Capital lease obligation, less current portion	18	37
Long-term debt, less current portion, net of debt issuance costs	13,771	8,546
Total liabilities	31,270	20,384
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, 2019 and 1,035 at September 30, 2018	35	35
Common shares, no par value:		
Authorized 19,000,000 shares; 10,510,694 issued and outstanding at September 30, 2019 and 10,245,277 at September 30, 2018	2,589	2,523
Additional paid-in capital	25,183	24,557
Accumulated deficit	(17,097)	(16,231)
Total shareholders' equity	10,710	10,884
Total liabilities and shareholders' equity	$ 41,980	$ 31,268

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,	
	2019	2018
Services revenue	$ 39,048	$ 22,440
Products revenue	4,568	3,906
Total revenue	43,616	26,346
Cost of services revenue	27,704	15,904
Cost of products revenue	2,991	2,326
Total cost of revenue	30,695	18,230
Gross profit	12,921	8,116
Operating expenses:		
Selling	2,914	1,541
Research and development	627	596
General and administrative	9,533	5,965
Total operating expenses	13,074	8,102
Operating (loss) income	(153)	14
Interest expense	(642)	(274)
Other income	9	6
Loss before income taxes	(786)	(254)
Income tax expense (benefit)	4	(60)
Net loss	$ (790)	$ (194)
Other comprehensive income	—	—
Comprehensive loss	$ (790)	$ (194)
Basic net loss per share:	$ (0.08)	$ (0.02)
Diluted net loss per share:	$ (0.08)	$ (0.02)
Weighted common shares outstanding:		
Basic	10,383	8,771
Diluted	10,383	8,771

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	Total shareholders'
	Number	Amount	Number	Amount	capital	deficit	equity
Balance at October 1, 2017	1,035	$35	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	-	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
Comprehensive loss:							
Adoption of accounting standard						(76)	(76)
Net loss						(790)	(790)
Stock issued in acquisition			200	50	344		394
Stock based compensation			54,615	14	278		292
Stock option exercises			10,802	2	4		6
Balance at September 30, 2019	35	35	10,510,694	2,589	25,183	(17,097)	10,710

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,	
	2019	2018
Operating activities:		
Net loss	$ (790)	$ (194)
Adjustments to reconcile net loss to net cash provided by operating activities, net of effects of acquisitions:		
Depreciation and amortization	2,717	1,875
Employee stock compensation expense	278	134
Unrealized foreign currency gains	(159)	—
Gain on disposal of property and equipment	1	—
Provision for doubtful accounts	(178)	(4)
Changes in operating assets and liabilities:		
Accounts receivable	(3,087)	(589)
Inventories	87	(269)
Income taxes	(3)	(82)
Prepaid expenses and other assets	(113)	(77)
Accounts payable	1,019	980
Accrued expenses	849	103
Customer advances	1,156	1,610
Net cash provided by operating activities	$ 1,777	3,487
Investing activities:		
Cash paid in acquisition	(1,271)	(6,759)
Capital expenditures	(6,878)	(1,317)
Proceeds from sale of equipment	-	2
Net cash used in investing activities	(8,149)	(8,074)
Financing activities:		
Payments of long-term debt	(909)	(331)
New borrowings on long-term debt	1,271	5,500
Payments of debt issuance costs	(94)	(113)
Proceeds from exercise of stock options	6	1
Payments on revolving line of credit	(28,662)	(7,545)
Borrowings on revolving line of credit	29,725	7,545
Borrowings on construction loans	4,301	—
Borrowings on capex line of credit	655	—
Payments on capital lease obligations	(88)	(131)
Net cash provided by financing activities	6,205	4,926
Net (decrease) increase in cash and cash equivalents	(167)	339
Cash and cash equivalents at beginning of year	773	434
Cash and cash equivalents at end of year	$ 606	$ 773
Supplemental disclosure of cash flow information:		
Cash paid for interest	$ 566	$ 233
Conversion of preferred shares to common shares	$ —	$ 1,000
Seventh Wave Laboratories LLC acquisition:		
Assets acquired	$ —	$ 10,052
Liabilities assumed	—	(818)
Common shares issued	—	(2,475)
Cash paid	$ —	$ 6,759
Smithers Avanza Toxicology Services LLC acquisition:		
Assets acquired	$ 3,384	$ —
Liabilities assumed	(1,719)	—
Common shares issued	(394)	—
Cash paid	$ 1,271	$ —

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 that provides drug discovery and development services to the pharmaceutical, agro chemical and medical device industries. We also manufacture scientific instruments for life sciences research, for use by pharmaceutical companies, universities, government research centers and medical research institutions. Our clients 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

In accordance with ASC 606, the Company disaggregates its revenue from clients into two revenue streams, service revenue and product revenue. At contract inception the Company assesses the services promised in the contract with the clients to identify performance obligations in the arrangements.

Service revenue

The Company enters into contracts with clients to provide drug discovery and development services with payments based on mainly fixed-fee arrangements. The Company also offers free archive storage services on certain contracts. Clients can also enter into separate archive storage contracts after the expiration of the free storage period.

The Company's drug discovery and development services contracts that include a free storage period are considered a single performance obligation because the Company provides a highly integrated service. The inclusion of free storage fee in the measurement of progress under the discovery and development service contracts creates a timing difference between the amounts the Company is entitled to receive in reimbursement of cost incurred and amount of revenue recognized on such costs, which is recognized as deferred revenue and classified as client advances on the condensed consolidated balance sheets.

The Company's fixed fee arrangements may involve bioanalytical, and pharmaceutical method development and validation, nonclinical research services and the analysis of bioanalytical and pharmaceutical samples. For bioanalytical and pharmaceutical method validation services and nonclinical research services, revenue is recognized over time using the input method based on the ratio of direct costs incurred to total estimated direct costs. For contracts that involve method development or the analysis of bioanalytical and pharmaceutical samples, revenue is recognized over time when samples are analyzed or when services are performed. The Company generally bills for services on a milestone basis. These contracts represent a single performance obligation and due to the Company's right to payment for work performed, revenue is recognized over time. Research services contract fees received upon acceptance are deferred until earned, and classified within customer advances on the condensed consolidated balance sheets. Unbilled revenues represent revenues earned under contracts in advance of billings.

Archive services provide climate controlled archiving for client's data and samples. The archive revenue is recognized over time, generally when the service is provided. These arrangements typically include only one performance obligation. Amounts related to future archiving or prepaid archiving contracts for clients 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.

Product revenue

The Company's products can be sold to multiple clients and have alternative use. Both the transaction sales price and shipping terms are agreed upon in the client order. For these products, all revenue is recognized at a point in time, generally when title of the product and control is transferred to the client based upon shipping terms. These arrangements typically include only one performance obligation. Certain products have maintenance agreements available for clients to purchase. These are typically billed in advance and are accounted for as deferred revenue and recognized ratably over the applicable maintenance period.

(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, 2019, we did not have any cash accounts that exceeded federally insured limits.

(d) Accounts Receivable

We perform periodic credit evaluations of our clients' financial conditions and generally do not require collateral on trade accounts receivable. We account for trade receivables based on the amounts billed to clients. 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 client 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 $1,759 and $1,948 at September 30, 2019 and 2018, respectively. A summary of activity in our allowance for doubtful accounts is as follows:

	Fiscal year ended September 30,	
	2019	2018
Opening balance	$ 1,948	$ 2,404
Charged to expense	-	16
Accounts written off	(13)	(20)
Amounts collected	(140)	-
Uncollected archive invoices	(36)	(452)
Ending balance	$ 1,759	$ 1,948

(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, 2019 and 2018:

	Fiscal year ended September 30,	
	2019	2018
Opening balance	$ 188	$ 211
Provision for slow moving and obsolescence	97	79
Write-off of obsolete and slow moving inventory	(87)	(102)
Closing balance	$ 198	$ 188

(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 $2,223 in fiscal 2019 and $1,686 in fiscal 2018. Property and equipment, net, as of September 30, 2019 and 2018 consisted of the following:

	2019	2018
Land and improvements	$ 1,048	$ 1,029
Buildings and improvements	22,418	22,194
Machinery and equipment	25,323	23,818
Office furniture and fixtures	905	829
Construction in progress	6,010	565
	55,704	48,435
Less: accumulated depreciation	(32,876)	(31,825)
Net property and equipment	$ 22,828	$ 16,610

(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, 2019 and 2018, respectively, the remaining recorded goodwill was $3,617 and $3,072. The increase of $545 is attributable to the Smithers Avanza 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, 2019 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, 2019 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, 2019 and 2018, the amortization expense associated with these was $6 and $6, respectively.

At September 30, 2019 the intangible assets subject to amortization totaled $2,873 as compared to $3,318 at September 30, 2018. These consisted primarily of the intangible assets acquired from the Seventh Wave Acquisition described in Note 11. The changes in the balances of the intangible assets for the years ended September 30, 2019 and 2018 are as follows:

	Trademarks	Client Relationships	Non-Compete Agreements	Backlog	Totals
Balance as of October 1, 2017	$ -	$ -	$ -	$ -	$ -
Seventh Wave Acquisition	1,170	1,980	190	143	3,483
Amortization	(20)	(62)	(12)	(71)	(165)
Balance as of September 30, 2018	$ 1,150	$ 1,918	$ 178	$ 72	$ 3,318
Amortization	(78)	(248)	(47)	(72)	(445)
Balance as of September 30, 2019	$ 1,072	$ 1,670	$ 131	$ -	$ 2,873

Future amortization expense for intangible assets at September 30, 2019 for the next five years are as follows:

	2020	2021	2022	2023	2024	Thereafter	Totals
Trademarks	78	78	78	78	78	682	1,072
Client Relationships	248	248	248	248	248	430	1,670
Non-Compete Agreements	47	47	37	-	-	-	131
Backlog	-	-	-	-	-	-	-
	$ 373	$ 373	$ 363	$ 326	$ 326	$ 1,112	$ 2,873

(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 both fiscal years 2018 and 2019.

As of September 30, 2019 and 2018, 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 2019 and 2018, we incurred $627 and $596, 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) 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 $207 and $159, as of September 30, 2019 and 2018, 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.

(n) New Accounting Pronouncements

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 continuing to evaluate the effects of adoption and have not yet determined the impact the revised guidance will have on our consolidated financial statements and related disclosures.

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, 2019, 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, 2019, 35 preferred shares remained outstanding. All dividends have been paid according to the agreement.

4. 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 years ended September 30, 2018, because they were anti-dilutive. Shares issuable upon exercise of 168 vested options and 17 common shares issuable upon conversion of preferred shares were not considered in computing diluted income (loss) per share for the years ended September 30, 2019, because they were anti-dilutive.

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

	Years Ended September 30,	
	2019	2018
Basic net income (loss) per share:		
Net loss applicable to common shareholders	$ (790)	$ (194)
Weighted average common shares outstanding	10,383	8,771
Basic net loss per share	$ (0.08)	$ (0.02)
Diluted net income (loss) per share:		
Diluted net loss applicable to common shareholders	$ (790)	$ (194)
Weighted average common shares outstanding	10,383	8,771
Plus: Incremental shares from assumed conversions:		
Series A preferred shares	—	—
Dilutive stock options/shares	—	—
Diluted weighted average common shares outstanding	10,383	8,771
Diluted net loss per share	$ (0.08)	$ (0.02)

5. INVENTORIES

Inventories at September 30 consisted of the following:

	2019	2018
Raw materials	$ 858	$ 939
Work in progress	89	89
Finished goods	346	342
	$ 1,293	$ 1,370
Obsolescence reserve	(198)	(188)
	$ 1,095	$ 1,182

6. LEASE ARRANGEMENTS

The total amount of equipment capitalized under capital lease obligations as of September 30, 2019 and 2018 was $6,252 and $6,252, respectively. Accumulated amortization on capital leases at September 30, 2019 and 2018 was $6,218 and $6,136, respectively. Amortization of assets acquired through capital leases is included in depreciation expense.

Future minimum lease payments on capital leases at September 30, 2019 for the next five years are as follows:

	Principal	Interest	Total
2020	$ 18	$ 2	$ 20
2021	18	1	19
	$ 36	$ 3	$ 39

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 $1,114 and $193 in fiscal 2019 and 2018, respectively. The UK building lease discussed in Note 13 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, 2019 are as follows:

2020	$ 1,116
2021	1,230
2022	1,286
2023	1,363
2024	1,651
	$ 6,646

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 client 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, 2019, the rents recognized amounted to $2,808 and cash rent received amounted to $2,678. 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
2020	$ 636	$ 633
2021	636	646
2022	636	659
2023	636	672
2024	636	685
	$ 3,180	$ 3,295

7. DEBT ARRANGEMENTS

Credit Facility

On June 23, 2017, we entered into a Credit Agreement with First Internet Bank of Indiana ("FIB"), which Credit Agreement as of September 30, 2019 had been amended on July 2, 2018, September 6, 2018, September 28, 2018 and May 1, 2019 (as amended, the "Credit Agreement"). The Credit Agreement includes three term loans (the "Initial Term Loan", "Subsequent Term Loan," and "New Term Loan," respectively), a revolving line of credit (the "Revolving Facility"), a construction draw loan (the "Construction Draw Loan"), an equipment draw loan (the "Equipment Draw Loan"), and a capital expenditure line of credit (the "Capex Line").

The Initial Term Loan for $4,500 bears interest at a fixed rate of 3.99%, with monthly principal and interest payments of approximately $33. The Initial Term Loan matures in June 2022. The balance on the Initial Term Loan at September 30, 2019 was $3,990. We used the proceeds from the Initial Term Loan to satisfy our indebtedness with Huntington Bank and terminated the related interest rate swap.

The July 2, 2018 amendment to the Credit Facility provided the Company with the Subsequent 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 of Seventh Wave Laboratories LLC. Amounts outstanding under the Subsequent Term Loan bear interest at a fixed per annum rate of 5.06%, with monthly principal and interest payments equal to $78. The Subsequent Term Loan matures July 2, 2023 and the balance on the Subsequent Term Loan at September 30, 2019 was $4,715.

The Revolving Facility provides a line of credit for up to $3,500 which the Company may borrow from time to time, subject to the terms of the Credit Agreement, including as may be limited by the amount of the Company's outstanding eligible receivables. The Revolving Credit Facility 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 Facility was $1,063 and $0 as of September 30, 2019 and 2018, respectively. We must pay accrued and unpaid interest on the outstanding balance under the Revolving Facility on a monthly basis.

The September 28, 2018 amendment provided the Company with the Construction Draw Loan in a principal amount not to exceed $4,445 and the Equipment Draw Loan in a principal amount not to exceed $1,429. The Construction Draw Loan and Equipment Draw Loan each mature on March 28, 2025. As of September 30, 2019, there was a $3,158 balance on the Construction Draw Loan and a $1,143 balance on the Equipment Draw Loan.

Subject to certain conditions precedent, a Construction Draw Loan and an Equipment Draw Loan each permit the Company to obtain advances aggregating up to the maximum principal amount available for such loan through March 28, 2020. Amounts outstanding under these loans bear interest at a fixed per annum rate of 5.20%. The Construction Draw Loan and the Equipment Draw Loan each require 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.

In connection with the Smithers Avanza Acquisition, on May 1, 2019, as described in Note 11, the Company and FIB entered into a fourth amendment (the "Fourth Amendment") to the Credit Agreement to (i) extend the term of the Company's Revolving Facility to June 30, 2020, (ii) provide the Company with an additional term loan (the "New Term Loan") in the amount of $1,271, the proceeds of which were used to fund the cash consideration for the Smithers Avanza Acquisition, and (iii) provide for an additional line of credit in the principal amount of $1,100 (the "Capex Line"), which the Company may borrow from time to time, subject to the terms of the Credit Agreement. The New Term Loan and the Capex Line mature November 1, 2025 and June 30, 2020, respectively. As of September 30, 2019, the balances on the New Term Loan and Capex Line were $1,271 and $655, respectively.

Amounts outstanding under the New Term Loan bear interest at a fixed per annum rate of 4.63%, while interest accrues on the principal balance of the Capex Line at a floating per annum rate equal to the sum of the Prime Rate plus Fifty Basis Points (0.5%), which rate shall change concurrently with the Prime Rate. Commencing June 1, 2019, the New Term Loan requires monthly interest only payments until December 1, 2019, from which time payments of principal and interest in monthly installments of $20 become due, with all accrued but unpaid interest, cost and expenses due and payable at the maturity date. The Company is required to pay accrued but unpaid interest on the Capex Line on a monthly basis commencing on June 1, 2019, until June 30, 2020, at which time the entire balance of the Capex Line, together with accrued but unpaid interest, costs and expenses, shall be due and payable in full.

Following its amendment, the Company's obligations under the Credit Agreement are guaranteed by BAS Evansville, Inc. ("BASEV"), Seventh Wave Laboratories, LLC ("Seventh Wave"), as well as BASi Gaithersburg LLC ("BASi Gaithersburg"), each a wholly owned subsidiary of the Company. The Company's obligations under the Credit Agreement and BASEV's, Seventh Wave's and the BASi Gaithersburg's obligations under their respective Guaranties are secured by first priority security interests in substantially all of the assets of the Company, BASEV, Seventh Wave and the BASi Gaithersburg respectively, as well as mortgages on the Company's and BASEV's facilities in West Lafayette, Indiana and Evansville, Indiana, respectively, and pledges of the Company's ownership interests in its subsidiaries.

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. The Credit Agreement also requires us to maintain (i) a minimum debt service coverage ratio of not less than 1.25 to 1.0 for the period ended June 30, 2019 (with ratios ranging from 1.25 to 1.0 to 1.15

to 1.0 for the periods thereafter) and (ii) beginning with the quarter ended March 31, 2020, a cash flow coverage ratio whereby, the ratio of the Company's total funded debt (as defined in the Credit Agreement) as of the last day of each fiscal quarter to its EBITDA (as defined in the Credit Agreement) for the 12 months ended on such date may not exceed 4.50 to 1.00 (5.0 to 1.0 for the period ended March 31, 2020). 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. The Company has also agreed to obtain a life insurance policy in an amount not less than $2,000 for its President and Chief Executive Officer and to provide FIB an assignment of such life insurance policy as collateral.

Additionally as part of the Smithers Avanza Acquisition, we have an unsecured promissory note payable to the Smithers Avanza Seller in the initial principal amount of $810 made by BASi Gaithersburg and guaranteed by the Company. The promissory note bears interest at 6.5% with monthly payments and maturity date of May 1, 2022.

Long term debt is detailed in the table below.

	As of:	
	September 30, 2019	September 30, 2018
Initial term loan	$ 3,990	$ 4,222
Subsequent term loan	4,715	5,392
New term loan	1,271	-
Subtotal term loans	9,662	9,614
Construction and Equipment loans	4,301	-
Seller Note	810	-
	15,087	9,614
Less: Current portion	(1,109)	(909)
Less: Debt issue costs not amortized	(207)	(159)
Total Long-term debt	$ 13,771	$ 8,546

Cash interest payments of $566 and $233 were made in 2019 and 2018, respectively. The following table summarizes the annual principal payments under our three term loans over the next five fiscal years:

	2020	2021	2022	2023	2024	Total
Term loans	$ 1,109	$ 1,180	$ 4,488	$ 2,680	$ 205	$ 9,662

8. INCOME TAXES

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

	2019	2018
Deferred tax assets:		
Inventory	$ 102	$ 101
Accrued compensation and vacation	162	68
Accrued expenses and other	379	277
Domestic net operating loss carryforwards	3,282	3,328
Basic difference for intangible assets	254	114
Stock compensation expense	2	5
AMT credit carryover	31	62
Total deferred tax assets	4,212	3,955
Deferred tax liabilities:		
Prepaid expenses	(121)	(60)
Basis difference for fixed assets	(219)	(280)
Total deferred tax liabilities	(340)	(340)
Total net deferred tax assets	3,872	3,615
Valuation allowance for net deferred tax assets	(3,841)	(3,553)
Net deferred tax asset	$ 31	$ 62

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

		2019	2018
Current:			
	Federal	$ (31)	$ (6)
	State and local	4	16
Deferred:			
	Federal	31	(70)
	State and local	—	—
Income tax expense (benefit)		$ 4	$ (60)

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

	2019	2018
Federal statutory income tax rate	21.0%	21.0%
Increases (decreases):		
State and local income taxes, net of Federal tax benefit, if applicable	(0.4)%	(5.0)%
Other nondeductible expenses	(11.5)%	(13.6)%
Valuation allowance changes	(9.6)%	21.1%
Effective income tax rate	(0.5)%	23.5%

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, 2019 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 (0.5%) 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 and becoming a current benefit. On December 22, 2017, the SEC issued guidance under Staff Accounting Bulletin No. 118, Income Tax Accounting Implications of the Tax Cuts and Jobs Act ("SAB 118") directing taxpayers to consider the impact of the U.S. legislation as "provisional" when it does not have the necessary information available, prepared or analyzed (including computations) in reasonable detail to complete its accounting for the change in tax law. In the prior year, the additional provisional amount of $1,718 was recognized due to the enactment of the Tax Act with an offsetting decrease to the valuation allowance. We have completed our assessment of these originally provisional entries and believe that all adjustments relating the enactment of the Tax Act are now finalized.

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 2019 and 2018 was $3,841 and $3,553, respectively for our domestic operations. Payments made in fiscal 2019 and 2018 for income taxes amounted to $7 and $5, respectively.

At September 30, 2019, we had domestic net operating loss carryforwards of approximately $11,546 for federal and $18,534 for state, which expire from September 30, 2023 through 2033.

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, 2019, no liability remained for other uncertain income tax positions.

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

	2019	2018
Balance at beginning of year	$ -	$ 16
Additions for tax positions	-	10
Settlements	-	(26)
Balance at end of year	$ -	$ -

As noted in the table above, there have been no additional gross uncertain tax positions during fiscal 2019 based on any federal or state tax position.

We are no longer subject to U.S. Federal tax examinations for years before 2015 or state and local for years before 2014, 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, 2019 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. At September 30, 2019, 270 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, 2019 and 2018, respectively, total non-qualified stock options outstanding were 15.

In fiscal 2019, 503 options were granted to employees and independent directors. In fiscal 2018, 198 options were granted to employees and independent directors. The weighted-average assumptions used to compute the fair value of options granted for the fiscal years ended September 30, 2019 and 2018 were as follows:

	2019	2018
Risk-free interest rate	2.47%	2.31%
Dividend yield	0.00%	0.00%
Volatility of the expected market price of the Company's common shares	70.8%-72.5%	83.70%
Expected life of the options (years)	8.0	8.0

A summary of our stock option activity for all options and related information for the year ended September 30, 2019, 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, 2018	301	$ 1.73			
Exercised	(15)	$ 1.19	$ 0.99		
Granted	503	$ 1.52	$ 1.11		
Forfeited	(13)	$ 1.65			
Outstanding - September 30, 2019	776	$ 1.61	$ 1.22	7.98	$ 1,536
Exercisable at September 30, 2019	168	$ 1.64	$ 1.33	5.23	$ 327

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, 2019 and the options' exercise price. As of September 30, 2019, our total unrecognized compensation cost related to non-vested stock options was $492 and is expected to be recognized over a weighted-average service period of 1.2 years.

During the year ended September 30, 2019, we granted a total of 55 shares, of which 20 shares are restricted, to our CEO under the terms of his employment agreement and to our new Chief Human Resources Officer. A summary of our restricted share activity for the year ended September 30, 2019 is as follows:

	Restricted Shares
Outstanding – September 30, 2018	-
Granted	55
Unrestricted at Grant	(35)
Forfeited	-
Outstanding - September 30, 2019	20

As of September 30, 2019, our total unrecognized compensation cost related to non-vested restricted stock was $31 and is expected to be recognized over a weighted-average service period of 1.6 years. The total fair value of the unrestricted shares granted during the year ended September 30, 2019 was $44.

Stock-based compensation expense for employee stock options and restricted stock for the years ended September 30, 2019 and 2018 was $278 and $134, respectively. The additional expense in the fiscal year ended September 30, 2019 was due to the grants issued to our new Chief Executive Officer in January 2019, option grants to all employees that were issued as of February 6, 2019 as well as option grants for employees related to the Smithers Avanza acquisition, as described in Note 11.

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 $374 and $256 in fiscal 2019 and 2018, respectively. The contribution expense has increased primarily due to the addition of the Seventh Wave and Smithers Avanza acquisitions.

11. BUSINESS COMBINATIONS

Seventh Wave Laboratories LLC acquisition

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 client 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
Client 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, client 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 $444 and $165 for fiscal years ended September 30, 2019 and 2018, respectively. Goodwill from this transaction has been allocated to the Company's Services segment.

The Company incurred transaction costs of $130 and $395, respectively, for the years ended September 30, 2019 and 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. For the fiscal year ended September 30, 2019, Seventh Wave recorded revenues of $12,070 and net income of $163.

Smithers Avanza Toxicology Services LLC acquisition

Overview

On May 1, 2019, the Company, through its wholly-owned subsidiary BASi Gaithersburg LLC (f/k/a Oriole Toxicology Services LLC) (the " Smithers Avanza Purchaser"), acquired (the "Smithers Avanza Acquisition") from Smithers Avanza Toxicology Services LLC (the "Smithers Avanza Seller"), a consulting-based contract research laboratory located in Gaithersburg, Maryland, substantially all of the assets used by the Smithers Avanza Seller in connection with the performance of in-vivo mammalian toxicology CRO services for pharmaceuticals (small molecules and biologics), vaccines, agro and industrial chemicals, under the terms and conditions of an Asset Purchase Agreement, dated May 1, 2019, among the Smithers Avanza Purchaser, the Company, the Smithers Avanza Seller and the member of the Smithers Avanza Seller (the "Smithers Avanza Purchase Agreement"). The total consideration for the Smithers Avanza Acquisition was $2,595, which consisted of $1,271 in cash, subject to certain adjustments and an indemnity escrow of $125, 200 of the Company's common shares valued at $394 using the closing price of the Company's common shares on April 30, 2019 and an unsecured promissory note in the initial principal amount of $810 made by the Smithers Avanza Purchaser and guaranteed by the Company. The promissory note bears interest at 6.5%. The Smithers Avanza Purchaser is operated as a wholly-owned subsidiary of the Company. The Company funded the cash portion of the purchase price for the Smithers Avanza Acquisition with cash on hand and the net proceeds from the refinancing of its credit arrangements with FIB, as described in Note 7.

The Smithers Avanza Purchase Agreement contains customary representations, warranties, covenants (including non-competition requirements applicable to the selling parties for a 5-year period) and indemnification provisions. As contemplated by the Smithers Avanza Purchase Agreement, on May 1, 2019 the Smithers Avanza Purchaser assumed amended lease arrangements for certain premises in Gaithersburg, Maryland (the "Lease Arrangements"). Under the Lease Arrangements, the Smithers Avanza Purchaser agreed to lease the premises for a term of 5 years and 8 months, with two 5 year extensions at the Smithers Avanza Purchaser's option. Annual minimum rental payments under the initial term of the Lease Arrangements range from $400 to $600, provided that the Lease Arrangements provide the Smithers Avanza Purchaser with the option to purchase the premises. The Lease Arrangements include customary rights upon a default by landlord or tenant.

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 May 1, 2019.

The Company's allocation of the $2,595 purchase price to Smithers Avanza's tangible and identifiable intangible assets acquired and liabilities assumed, based on their estimated fair values as of May 1, 2019, is included in the table below. Goodwill, which is derived from the enhanced scientific expertise, expanded client 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, 2019 is as follows:

	Allocation as of September 30, 2019
Assets acquired and liabilities assumed:	
Receivables	$ 1,128
Property and equipment	1,564
Prepaid expenses	147
Goodwill	545
Accrued expenses	(219)
Customer advances	(570)
	$ 2,595

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. Goodwill from this transaction is allocated to the Company's Services segment.

The Company incurred transaction costs of $439 for the year ended September 30, 2019 related to the Smithers Avanza 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). Smithers Avanza recorded revenues of $4,267 and net income of $195 for the period beginning from the acquisition date of May 1, 2019 and ending on September 30, 2019.

Pro Forma Results

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

The unaudited pro forma information is as follows:

	Fiscal Year Ended September 30, 2018
Total revenues	$ 43,245
Net loss	(2,419)
Pro forma basic net loss per share	$ (0.27)
Pro forma diluted net loss per share	$ (0.27)

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 and Smithers Avanza are consulting-based contract research laboratories whose core business involves providing integrated services for discovery and preclinical drug development, we consider them 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,	
		2019	2018
Revenue:			
	Services	$ 39,048	$ 22,440
	Products	4,568	3,906
		$ 43,616	$ 26,346
Operating income (loss):			
	Services	$ 5,579	$ 3,306
	Products	(95)	(280)
	Corporate	(5,636)	(3,573)
		$ (153)	$ 14
Interest Expense		(642)	(274)
Other income		9	6
Income (loss) before income taxes		$ (786)	$ (254)

	Years Ended September 30,	
	2019	2018
Identifiable assets:		
Services	$ 35,122	$ 24,514
Products	3,596	3,469
Corporate	3,262	3,285
	$ 41,980	$ 31,268
Goodwill, net:		
Services	$ 3,617	$ 3,072
Products	—	—
Corporate	—	—
	$ 3,617	$ 3,072

	Years Ended September 30,	
	2019	2018
Depreciation and amortization:		
Services	$ 2,017	$ 1,204
Products	19	21
Corporate	681	650
	$ 2,717	$ 1,875
Capital expenditures:		
Services	$ 5,936	$ 1,021
Products	29	9
Corporate	913	287
	$ 6,878	$ 1,317

(b) Geographic Information

		Years Ended September 30,	
		2019	2018
Sales to External Customers:			
	United States	$ 39,634	$ 22,290
	Other North America	218	163
	Pacific Rim	2,407	3,073
	Europe	1,217	670
	Other	140	150
		$ 43,616	$ 26,346

Long-lived Assets:		
United States	$ 29,484	$ 23,136
	$ 29,484	$ 23,136

(c) Major Clients

In fiscal 2019, our Services group continued its presence at several important existing clients. In fiscal 2019, one client accounted for approximately 6.7% of total sales and 8.0% of total trade accounts receivable at September 30, 2019. In fiscal 2018, this client accounted for approximately 11.2% of total sales and 4.0% of total trade accounts receivable at September 30, 2018. The client 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 client 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 had a $1,117 reserve for lease related costs and for legal and professional fees and other costs to remove improvements previously made to the facility. During fiscal 2019, the Company released portions of the reserve for lease related liabilities that were no longer owed due to the statute of limitations. For the year ended September 30, 2019, general and administrative expenses on the condensed consolidated statements of operations and comprehensive income (loss) were reduced by $768 for the liability reduction. At September 30, 2019 and September 30, 2018, respectively, we had $349 and $1,117 reserved for the remaining liability. The reserve is classified as a current liability on the condensed consolidated balance sheets.

14. REVENUE RECOGNITION

In accordance with ASC 606, which the Company adopted as of October 1, 2018 using the modified retrospective approach, the Company disaggregates its revenue from clients into two revenue streams, service revenue and product revenue. At contract inception the Company assesses the services promised in the contract with the clients to identify performance obligations in the arrangements. Results for fiscal 2018 are not adjusted and continue to be reported in accordance with the Company's historical accounting under ASC Topic 605.

Service revenue

The Company enters into contracts with clients to provide drug discovery and development services with payments based on mainly fixed-fee arrangements. The Company also offers free archive storage services on certain contracts. Clients can also enter into separate archive storage contracts after the expiration of the free storage period.

The Company's drug discovery and development services contracts that include a free storage period are considered a single performance obligation because the Company provides a highly integrated service. The inclusion of free storage fee in the measurement of progress under the discovery and development service contracts creates a timing difference between the amounts the Company is entitled to receive in reimbursement of cost incurred and amount of revenue recognized on such costs, which is recognized as deferred revenue and classified as client advances on the condensed consolidated balance sheet.

The Company's fixed fee arrangements may involve bioanalytical and pharmaceutical method development and validation, nonclinical research services and the analysis of bioanalytical and pharmaceutical samples. For bioanalytical and pharmaceutical method validation services and nonclinical research services, revenue is recognized over time using the input method based on the ratio of direct costs incurred, including hours, to total estimated direct costs since this best depicts the transfer of assets to the client over the life of the contract. For contracts that involve method development or the analysis of bioanalytical and pharmaceutical samples, revenue is recognized over time when samples are analyzed or

when services are performed. The Company generally bills for services on a milestone basis. These contracts represent a single performance obligation and due to the Company's right to payment for work performed, revenue is recognized over time. Research services contract fees received upon acceptance are deferred until earned, and classified within customer advances on the condensed consolidated balance sheet. Unbilled revenues represent revenues earned under contracts in advance of billings.

Archive services provide climate controlled archiving for client's data and samples. The archive revenue is recognized over time, generally when the service is provided. These arrangements typically include only one performance obligation. Amounts related to future archiving or prepaid archiving contracts for clients 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.

Certain costs are incurred in obtaining new contracts for our services business. Since these costs would otherwise be amortized within one year or less due to the average length of contracts, the Company choose to adopt the practical expedient and expense these incremental costs as incurred.

Product revenue

The Company's products can be sold to multiple clients and have alternative use. Both the transaction sales price and shipping terms are agreed upon in the client order. For these products, all revenue is recognized at a point in time, generally when title of the product and control is transferred to the client based upon shipping terms. These arrangements typically include only one performance obligation. In situations which the Company is responsible for shipping before control is transferred to the client, the Company elected the practical expedient to consider the shipment as a fulfillment activity and not a separate performance obligation. Certain products have maintenance agreements available for clients to purchase. These are typically billed in advance and are accounted for as deferred revenue and recognized ratably over the applicable maintenance period. Certain products manufactured by the Company have a standard limited one year warranty offered. Warranty expenses, though, are immaterial; thus, we have not established a separate warranty liability.

The following table prsents changes in the Company's contract liabilities for the year ended September 30, 2019.

	Balance at September 30, 2018	Additions	Deductions	Balance at September 30, 2019
Contract liabilities: Customer advances	$ 4,925	$ 34,650	$ (32,849)	$ 6,726

The impact of adoption of ASC 606 to the Company's condensed consolidated financial statements for the year ended September 30, 2019 is as follows:

Statements of Operations and Comprehensive Income (Loss)

	As Reported	Effect of Change Higher/(Lower)	Amount Without Adoption of ASC606
Service revenue	$ 39,048	$ (26)	$ 39,074
Product revenue	4,568	-	4,568
Total revenue	43,616	(26)	43,642
Total cost of revenue	30,695	-	30,695
Gross profit	12,921	(26)	12,947
Operating loss	(153)	(26)	(127)
Net loss before income taxes	(786)	(26)	(760)
Income taxes expense	4		4
Net Income	$ (790)	$ (26)	$ (764)
Diluted net loss per share	$ (0.08)	$ 0.00	$ (0.08)

Balance Sheet

	As Reported	Effect of Change Higher/(Lower)	Amount Without Adoption of ASC 606
Current Liabilities:			
Client advances	$ 6,726	$ (102)	$ 6,624
Shareholder's equity:			
Accumulated deficit	$ (17,097)	$ 102	$ (16,995)

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 $75 and $62 in fees and reimbursed travel costs in fiscal 2019 and fiscal 2018, respectively. Additionally, we have a consulting agreement with LS Associates by which we paid consulting fees of $156K and $298 in fiscal 2019 and fiscal 2018, respectively. LS Associates is the company owned in part by our CEO, Robert W. Leasure Jr. The Company received consulting services form LS Associates prior to Mr. Leasure being elected as CEO and continues to use services of the consulting firm on an as needed basis.

16. SUBSEQUENT EVENTS

On November 8, 2019, the Company and Bronco Research Services LLC, a wholly owned subsidiary of the Company (the "Purchaser"), entered into an Asset Purchase Agreement (the "Purchase Agreement") with Pre-Clinical Research Services, Inc., a Colorado corporation (the "Seller"), and its shareholder. Pursuant to the Purchase Agreement, and subject to the terms and conditions thereof, the Company will indirectly acquire (the "PCRS Acquisition") substantially all of the assets of Seller used or useful by Seller in connection with Seller's provision of GLP and non-GLP preclinical testing for the pharmaceutical and medical device industries. The consideration for the PCRS acquisition consists of $1,500,000 in cash, subject to certain adjustments, 240,000 of the Company's common shares and an unsecured promissory

note in the initial principal amount of $800,000 made by Purchaser. The Company intends to fund the cash portion of the acquisition purchase price with cash on hand and net proceeds from the refinancing of its credit arrangements with First Internet Bank.

The Company also purchased certain real property located in Fort Collins, Colorado, comprising the main facility for the Seller's business and additional property located next to the facility available for future expansion, for $2,500,000. As contemplated by the Purchase Agreement, the Company also entered into a lease arrangement for an ancillary property used by Seller's business, located in Livermore, Colorado.

In order to finance the PCRS Acquisition and the real property purchase, as well as provide additional capital to fund growth efforts, the Company amended and restated its credit arrangements with First Internet Bank (the "Credit Agreement Amendment") to, among other things, (i) increase the principal amount of the Company's amended and restated revolving note from $3,500,000 to $5,000,000 with a maturity of January 31, 2021 and interest payments only until maturity at a floating per annum rate equal to the greater of (a) four percent (4%), or (b) the sum of the Prime Rate plus Zero Basis Points (0.0%), which rate shall change concurrently with the Prime Rate, (ii) add a capital expenditure line of credit in the principal amount of $3,000,000 with a maturity of December 31, 2020 and interest payments only until maturity at a floating per annum rate equal to the greater of (a) four percent (4%), or (b) the sum of the Prime Rate plus Fifty Basis Points (0.5%), which rate shall change concurrently with the Prime Rate, (iii) add a new term loan in the principal amount of $1,500,000 with a maturity of June 1, 2025, interest at a fixed per annum rate equal to four percent (4%) and with interest payments only commencing January 1, 2020 through June 1, 2020, with monthly payments of principal and interest thereafter through maturity and (iv) add an additional new term loan in the principal amount of $1,939,000 with a maturity of December 1, 2024 and interest at a fixed per annum rate equal to four percent (4%), with payments of principal and interest due monthly through maturity.

Following the Credit Agreement Amendment, the Company's obligations under the Amended and Restated Credit Agreement are guaranteed by BAS Evansville, Inc. ("BASEV"), Seventh Wave Laboratories, LLC ("Seventh Wave"), BASi Gaithersburg LLC ("BG"), as well as the Purchaser (collectively, the "Guarantors"), each a wholly owned subsidiary of the Company. The Company's obligations under the Credit Agreement and the Guarantor's obligations under their respective guaranties are secured by first priority security interests in substantially all of the assets of the Company and the Guarantors, respectively, as well as mortgages on the Company's, BASEV's and the Purchaser's facilities in West Lafayette, Indiana, Evansville, Indiana, and Fort Collins, Colorado, respectively, and pledges of the Company's ownership interests in its subsidiaries.

The Amended and Restated Credit Agreement includes financial covenants consisting of (i) a Fixed Charge Coverage Ratio (as defined in the Amended and Restated Credit Agreement) of not less than 1.25 to 1.0, tested quarterly and measured on a trailing twelve (12) month basis and (ii) beginning March 31, 2020 a Cash Flow Leverage Ratio (as defined in the Amended and Restated Credit Agreement), tested quarterly, as follows: not to exceed (a) as of March 31, 2020, 5.00 to 1.00, (b) as of June 30, 2020, 4.50 to 1.00, (c) as of September 30, 2020, 4.25 to 1.00 and (d) as of December 31, 2020 and each quarter thereafter, 4.00 to 1.00.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholders
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, 2019 and 2018, 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, 2019, 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 24, 2019

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

None.

ITEM 9A-CONTROLS AND PROCEDURES

On May 1, 2019, we acquired substantially all of the assets of Smithers Avanza Toxicology Services, LLC. The Smithers Avanza's business constituted 16.5% of our total assets at September 30, 2019 and 9.8% of our revenues for the twelve months ended September 30, 2019. 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 Chief 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 Chief Executive Officer and Chief Financial Officer that our disclosure controls and procedures were effective as of September 30, 2019.

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 Chief 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, 2019.

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 2019 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.

Name	Age	Position
Gregory C. Davis, Ph.D.	66	Chairman
Richard A. Johnson	74	Director
R. Matthew Neff	64	Director
Wendy Perrow	61	Director
Robert Leasure, Jr.	60	Director, Chief Executive Officer
John E. Sagartz, DVM, PhD, DACVP	55	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 George H.W. 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 2019.

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 2020 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 2020 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 2020 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 2020 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 26, 2019

By: /s/ Robert W. Leasure, Jr.

Robert W. Leasure, Jr.
Chief Executive Officer
(Principal Executive Officer)

Date: December 26, 2019

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.

Signature	**Capacity**	**Date**
/s/ Gregory C. Davis, Ph.D. Gregory C. Davis, Ph.D.	Chairman	December 24, 2019
/s/ R. Matthew Neff R. Matthew Neff	Director	December 24, 2019
/s/ Richard A. Johnson, Ph.D. Richard A. Johnson, Ph.D.	Director	December 24, 2019
/s/ Wendy Perrow, MBA Wendy Perrow, MBA	Director	December 24, 2019
/s/ John E. Sagartz, DVM, Ph.D., DACVP John E. Sagartz, DVM, Ph.D., DACVP	Director	December 24, 2019

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.ǂ
	2.2	Asset Purchase Agreement, dated May 1, 2019, by and among **B**ioanalytical Systems, Inc., Oriole Toxicology Services, LLC and Smithers Avanza Toxicology Laboratories, LLC (incorporated by reference to Exhibit 2.1 to Form 10-Q filed August 14, 2019).
(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 fiscal 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 fiscal year ended September 30, 2017).
	10.6	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).
	10.7	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).*

10.8 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).*

10.9 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).

10.10 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).

10.11 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).

10.12 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).

10.13 First Amendment to Credit Agreement, dated July 2, 2018, between Bioanalytical Systems, Inc. and First Internet Bank (incorporated by reference to Exhibit 10.14 to Form 10-K for the fiscal year ended September 30, 2018).

10.14 Second Amendment to Credit Agreement, dated September 6, 2018, between Bioanalytical Systems, Inc. and First Internet Bank (incorporated by reference to Exhibit 10.15 to Form 10-K for the fiscal year ended September 30, 2018).

10.15 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).

10.16 Commercial Lease Agreement, effective July 16, 2018, between Seventh Wave Laboratories, LLC (f/k/a Cardinal Laboratories LLC) and SWL Properties LLC (incorporated by reference to Exhibit 10.17 to Form 10-K for the fiscal year ended September 30, 2018).

10.17 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) (incorporated by reference to Exhibit 10.18 to Form 10-K for the fiscal year ended September 30, 2018).

10.18 Employment Agreement, by and between Bioanalytical Systems, Inc. and John E. Sagartz, DVM, Ph.D., DACVP, effective October 5, 2018 (incorporated by reference to Exhibit 10.19 to Form 10-K for the fiscal year ended September 30, 2018).*

10.19 Employment Agreement, effective January 14, 2019, by and between the Company and Robert Leasure, Jr. (incorporated by reference to Exhibit 10.1 to Form 10-Q filed May 15, 2019).

10.20 Fourth Amendment to Credit Agreement, dated May 1, 2019, between Bioanalytical Systems, Inc. and First Internet Bank (incorporated by reference to Exhibit 10.1 to Form 10-Q filed August 14, 2019).

10.21 Lease Agreement, dated December 30, 2009, by and between Rickman Firstfield Associates and Avanza Laboratories, LLC (incorporated by reference to Exhibit 10.2 to Form 10-Q filed August 14, 2019).

10.22 Assignment and Assumption of Lease, dated May 1, 2019, by and between Avanza Development Services, LLC and Oriole Toxicology Services LLC (incorporated by reference to Exhibit 10.3 to Form 10-Q filed August 14, 2019).

	10.23	Third Amendment to Lease, dated May 1, 2019, by and between Rickman Firstfield Associates and Oriole Toxicology Services LLC (incorporated by reference to Exhibit 10.4 to Form 10-Q filed August 14, 2019).
	10.24	Amended and Restated Bioanalytical Systems, Inc. 2018 Equity Incentive Plan (incorporated by reference to Annex A of the registrant's definitive proxy statement, filed January 26, 2018, File No. 000-233357)
	10.25	Form of Restricted Stock Award Agreement under Amended and Restated Bioanalytical Systems, Inc. 2018 Equity Incentive Plan (filed herewith).
	10.26	Form of Non-Qualified Stock Option Award Agreement under Amended and Restated Bioanalytical Systems, Inc. 2018 Equity Incentive Plan (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 Chief Executive Officer (filed herewith).
	31.2	Certification of Chief Financial Officer (filed herewith).
(32)	32.1	Written Statement of Chief 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.

ǂ 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.