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

(Mark One) **FORM 10-K**

[X] ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 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:

001-38298

ZOMEDICA PHARMACEUTICALS CORP.
(Exact name of registrant as specified in its charter)

Alberta, Canada	**N/A**
(State or other jurisdiction of Incorporation or organization)	(I.R.S. Employer Identification No.)
100 Phoenix Drive, Suite 180, Ann Arbor, Michigan	**48108**
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code: **(734) 369-2555**

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Shares, without par value	ZOM	NYSE American

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

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

☐ Yes ☑ No

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

☐ Yes ☑ No

Indicate by checkmark 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 required 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 and post such files). ☑ Yes ☐ No

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, 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:

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

As of June 30, 2019, the aggregate market value of the registrant's common shares held by non-affiliates of the registrant was approximately $11.5 million based on the last reported sale price of the common shares on the NYSE American on June 28, 2019.

Indicate the number of shares outstanding of each of the registrant's classes of common stock, as of the latest practicable date.

The number of the registrant's common shares outstanding as of February 26, 2020, was 128,871,732.

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CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This report on Form 10-K contains forward-looking statements made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995 under Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, as well as the safe harbor provisions of applicable Canadian securities legislation, that are based on management's beliefs and assumptions and on information currently available to management. Some of the statements under "Risk Factors," "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Business" and elsewhere in this Form 10-Q contain forward-looking statements. In some cases, you can identify forward-looking statements through our use of words such as "may," "might," "will," "could," "would," "should," "expect," "intend," "plan," "anticipate," "believe," "estimate," "predict," "project," "potential," "continue," "ongoing" or the negative of these terms or other comparable terminology, although not all forward-looking statements contain these words.

There are a number of important factors that could cause the actual results to differ materially from those expressed in any forward-looking statement made by us. These factors include, but are not limited to:

- the success, cost and timing of our research and development activities, validation studies and pivotal trials, including with respect to our TRUFORMA™ platform and our other diagnostic and therapeutic product candidates;
- our ability to find development and commercialization partners for our liquid biopsy platform and our therapeutic product candidates and the terms of any collaboration agreements we enter into with respect thereto;
- our ability to obtain regulatory approval from the Food and Drug Administration's Center for Veterinary Medicine (FDA-CVM) and/or the USDA Center for Veterinary Biologics (USDA-CVB) for our pharmaceutical and diagnostic product candidates, as applicable;

- our ability to obtain funding for our operations;
- our obligation to pay a portion of our "net sales" to holders of our Series 1 Preferred Shares;
- our ability to raise additional capital, considering the significant obligations under our Series 1 Preferred Shares;
- the ability of our contract research organizations to appropriately conduct our safety studies and certain development activities;
- the ability of our contract manufacturing organizations to manufacture and supply our product candidates in accordance with current Good Manufacturing Practices and our clinical needs;
- the ability of our contract manufacturing organizations to manufacture and supply our product candidates in accordance with current Good Manufacturing Practices and our clinical needs;
- our plans to develop and commercialize our product candidates;
- our ability to develop and commercialize product candidates that can compete effectively against the product candidates developed and commercialized by our competitors or that can meet the current standards of care (including human generic drugs);
- the size and growth of the veterinary diagnostics and therapeutics markets;
- our ability to obtain and maintain intellectual property protection for our current and future product candidates;
- regulatory developments in the United States;
- the loss of key scientific or management personnel;
- our expectations regarding the period during which we will be an "emerging growth company" under the JOBS Act;
- the accuracy of our estimates regarding expenses, future revenues, capital requirements and needs for additional financing; and
- our status as a "passive foreign investment company" for U.S. federal income tax purposes.

The foregoing does not represent an exhaustive list of matters that may be covered by the forward-looking statements contained herein or risk factors that we are faced with that may cause our actual results to differ from those anticipate in our forward-looking statements. Please see "Risk Factors" below for additional risks which could adversely impact our business and financial performance.

All forward-looking statements are expressly qualified in their entirety by this cautionary notice. You are cautioned not to place undue reliance on any forward-looking statements, which speak only as of the date of this report or the date of the document incorporated by reference into this report. We have no obligation, and expressly disclaim any obligation, to update, revise or correct any of the forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law. We have expressed our expectations, beliefs and projections in good faith, and we believe they have a reasonable basis. However, we cannot assure you that our expectations, beliefs or projections will result or be achieved or accomplished.

PART I

Item 1. Business.

BUSINESS

Overview

We are a development stage veterinary diagnostic company focused on creating point-of-care diagnostic platforms for use by veterinarians treating companion animals (canine, feline, and equine). We believe that our diagnostic platforms have the potential to significantly improve the diagnosis and treatment of various diseases affecting companion animals. We also believe that there are significant unmet medical needs for point-of-care diagnostic tools for use on pets, and that the pet diagnostic segment of the animal health industry is likely to grow substantially as new diagnostic tools and treatments are identified, developed, and marketed specifically for companion animals.

Market Opportunity

U.S. consumers spent an estimated $75 billion on their pets in 2019, according to the American Pet Products Association, or APPA, an increase of approximately 4% from 2018. The veterinary care segment accounted for an estimated $19 billion in revenue in 2019, an increase of approximately 5% from 2018. According to dvm360 Magazine's State of the Profession survey for 2015, diagnostics comprise 18%, and vaccinations, pharmaceuticals and biologicals comprise 25% of gross revenue at the veterinary practice level.

Veterinary diagnostics is a growing market. According to a 2016 pet owner survey conducted by The Human Animal Bond Research Institute Foundation in partnership with Cohen Research Group, 68% of U.S. households have at least one pet, 83% of dog-owning households visit the vet every year and it is estimated that there were 170 million clinical visits in the U.S in 2018.

The dvm360 Magazine survey also states that 61% of respondents indicated that they were providing more diagnostic services than the prior year. Similarly, a 2016 Credit Suisse survey of veterinarians found that 73% of respondents expected their diagnostic testing to increase over the next 12 months. According to MarketsandMarkets, the companion animal diagnostics market is projected to reach $2.8 billion by 2024 from $1.7 billion in 2019, at a Compounded Annual Growth Rate, or CAGR of 9.8%. The growth in this market is driven by the rising companion animal population, increasing demand for pet insurance, and the growth in the number of veterinary practitioners in developed countries. The growing demand for rapid tests and portable instruments for point-of-care services is expected to offer potential growth opportunities for market players in the coming years. Furthermore, in August of 2017, Accuracu Research, reported that the global veterinary immunodiagnostic market was expected to grow at a CAGR of 10.2% and reach $2.68 billion by 2025.

Packaged Facts' Pet Medications, in its U.S. report for 2017, estimated the size of the U.S. pet medication market, the largest companion animal market worldwide, at $8.6 billion in 2017, up from $7 billion in 2015. Future Market Insights estimates that the global companion animal drug market is expected to grow at a compounded annual growth rate of 4.9% from 2015 - 2025.

We believe that several factors have contributed and will continue to contribute to an increase in spending on pet diagnostics and therapeutics. Companion animals are generally living longer, with the average lifespan for dogs increasing by half a year to 11 years between 2002 and 2012, according to a study by Banfield Pet Hospital. In 2015, the American Animal Hospital Association estimated that the average dog will account for approximately $3,600 in veterinary bills over its lifespan. According to Pet Supplies Plus, baby boomers are adopting pets in record numbers. In its December 2015 issue, Pet Business magazine predicted that the millennial generation would continue the trend of the baby boomers in their enthusiasm for and interest in their pets and pet products and services. This, we believe, along with the increasing awareness of, as the U.S. Public Health Service states, "the mental and emotional benefits of companion animals" and our use of companion animals to address or assist in a range of health and wellness issues including post-traumatic stress disorder and autism, will bolster the growth and development of the pet therapeutics and diagnostics market.

Pet owners in the United States generally pay for diagnostics and therapeutics for their companion animals out-of-pocket. According to statistics from the North American Pet Health Insurance Association, only about 2.0 million dogs and cats in the United States and Canada were covered by an insurance plan in 2018. This represents less than 1% of the nearly 184 million dogs and cats that the American Pet Products Association estimates are owned in the United States alone. We believe that this results in less pricing pressure than in human health care, although the limited adoption of insurance may also reduce the ability of pet owners to pay for diagnostics and therapeutics recommended by their veterinarians.

Development of Companion Animal Diagnostics

The development of companion animal diagnostics continues to evolve with the addition of new technologies to diagnostic portfolios. We believe that these new technologies may allow for the following:

- Enhanced capability to detect the frequency of occurrence and severity of diseases and conditions that impact companion animals;
- Increased accuracy and faster means to obtain test results;
- Wider availability of new diagnostic tools; and
- Enhanced economic benefits for veterinarians.

Compared to human diagnostic development, the development of companion animal diagnostics is generally faster and less expensive since it typically requires smaller clinical studies, with fewer subjects. We believe that the lower cost of developing companion animal diagnostics enables us to pursue multiple diagnostic candidates simultaneously and to spread the risk of failure across a number of candidates, rather than concentrating all of our resources on one diagnostic candidate that may ultimately fail to achieve regulatory approval or market acceptance.

Development of Companion Animal Therapeutics

Compared to human drug development, the development of companion animal therapeutics is generally faster and less expensive since it requires fewer clinical studies involving fewer subjects and can be conducted directly in the target species. Because our product candidates are based on drugs that have been successfully developed and approved for human use-as opposed to drugs based on new active pharmaceutical ingredients (APIs)-we believe that we will be able to avoid or minimize the expenses associated with the human drug development process and more rapidly advance our development programs, while continuing to comply with current good manufacturing practices, or cGMP, for our product candidates. Since we are not pursuing entirely new chemical entities with our drug product candidates, we believe the risk of failure of a specific drug product candidate is significantly lower compared to developing a novel compound.

Unmet Medical Needs

Diagnostics

We believe that there is a significant unmet medical need for faster, more efficient and accurate disease/condition detection solutions for veterinarians. We believe that we have identified potential diagnostic assays that have the potential to satisfy unmet needs or improve upon existing diagnostic processes frequently used by companion animal veterinarians.

For example, cancer is a prevalent disease in canines that can be difficult and costly to diagnose using existing diagnostic testing. According to the Veterinary Cancer Society, 50% of all dogs over the age of 10 will develop cancer and one in four dogs will develop cancer at some stage in their life. Diagnosing certain cancers in canines is difficult because the location of the tumor may make it difficult or risky to obtain cell material through a biopsy. In addition, the overall health of a canine may increase the risk of performing a biopsy. Other diagnostic technologies, such as advanced imaging, are expensive while others, such as histopathologic examination, may take several days or more to provide a definitive diagnosis. Many more canine cancer cases may go undetected due to cost constraints and other factors. To address these shortcomings, we are developing a circulating tumor cell detection assay for use in the detection of certain cancers in companion animals.

Therapeutics

Despite the growing market for pet therapeutics, there are relatively few treatment options approved for use in companion animals, as compared to those approved for humans. As a result, veterinarians often must resort to prescribing products approved for use in humans, but not approved or formulated for use in companion animals and must rely upon trial and error or untested rules of thumb to assess the proper dosage needed to be effective in the particular species without undue risk of side effects. The veterinarian must also find a way to administer the human product to animals and determine the actual dosage amount, tasks which are important and potentially overlooked as practical considerations in the treatment of companion animals. To do this, veterinarians often rely on compounding pharmacies to formulate human drugs into species' appropriate doses and formulations. As a result, veterinarians are forced to rely on therapeutics not proven safe and effective for their patients and on formulations for which no regulatory approval has been obtained. At the same time, the use of compounding pharmacies results in the veterinary clinic's loss of much of the associated prescription revenue.

Product Pipeline

TRUFORMA™ Platform

Our strategic focus is on the final development and commercialization of our TRUFORMA™ diagnostic biosensor platform and the first five assays for the detection of adrenal and thyroid disorders in cats and dogs. The TRUFORMA™ platform uses Bulk Acoustic Wave (BAW) technology to provide a non-optical and fluorescence free detection system for use at the point-of-care. We believe that BAW technology will enable precise and repeatable test results at the point-of-care during a typical veterinary appointment. The TRUFORMA™ platform is being developed together with Qorvo Biotechnologies, LLC., or Qorvo Biotech.

Thyroid and adrenal disorders are some of the most common endocrine disorders in dogs and cats and diagnostics are a vital part of identifying these disorders in sick patients as well as geriatric wellness panels. Multiple assays must be performed to reach a definitive diagnosis but the ability to run all the necessary tests at the point-of- are does not currently exist and some tests must be sent to a reference lab. The initial three thyroid assays we are developing are: Total T4: Canine & Feline (thyroxine), Free T4: Canine, and TSH: Canine & Feline (thyroid stimulating hormone) and the two adrenal assays are Cortisol: canine, and Endogenous ACTH: canine (endogenous adrenocorticotropic hormone, or eACTH). Feasibility results showed a correlation data range of 0.95 – 0.99 to standard of care reference lab instruments for all five assays, which should provide a definitive diagnosis during the patient's visit.

Current methods for diagnosing the two most common canine adrenal diseases, Cushing's and Addison's, may require multiple visits, potential hospitalization of dogs for injections and multiple blood draws over time which is expensive, stresses patients, and requires significant veterinary staff time. The availability of canine eACTH at point-of-care has the potential to change the way veterinarians manage two chronic and potentially life-threatening diseases in dogs by providing accurate results more quickly and at a lower cost.

Hyperthyroidism is a common and chronic metabolic disorder in cats, requiring life-long treatment. It is estimated that over 10 percent of all senior cats will develop hyperthyroidism. (Feline hyperthyroidism - J Feline Med Surg. 2012 Nov;14(11):804-18. doi: 10.1177/1098612X12464462. Hyperthyroidism in cats: what's causing this epidemic of thyroid disease and can we prevent it? Peterson M.)

Verification of TRUFORMA's™ initial assays is expected to be completed by the end of the first quarter of 2020. Assuming successful completion of verification, our goal is to complete validation by the end of the second quarter of 2020. We intend to commence a pilot program in parallel to the validation work to optimize the customer experience. Assuming successful completion of these phases of work, we expect to commence commercialization of all five initial assays in select strategic markets by the end of 2020. We believe our initial assays do not require premarket regulatory approval by U.S. regulators. Following commercial launch of TRUFORMA™, the Company intends to develop the platform's next two assays for non-infectious gastrointestinal disease.

Pathogen Detection Program

Following the commercial launch of TRUFORMA™, we expect to continue the development of another point-of-care diagnostic platform, which is based on miniaturized laser-based Raman spectroscopy technology and is designed to detect pathogens in companion animals. We believe this platform will enable the identification of biological and biochemical signatures in complex biological samples and has the potential to achieve reference lab sensitivity/specificity to screen for a wide range of pathogens in companion animal feces, urine, respiratory, and dermatological samples in minutes without the need for extensive sample prep or the use of reagents. The diagnostic platform requires a small fecal sample preparation. Additionally, the platform has automated analysis and does not require specialized staff training. Assuming development work is successfully completed we expect the commercial launch of our fecal test to occur by 2022 and urine tests by 2023. We believe that this diagnostic platform does not require pre-market regulatory approval for use with companion animals in the United States. This platform is being developed together with Seraph Biosciences, Inc., or Seraph.

Veterinarians must use slow, unreliable manual processes to identify fecal parasitic infections at the point-of-care. Consequently, veterinarians frequently send samples out to reference labs to test for and identify parasitic infections, which is relatively expensive and takes several days, delaying diagnosis and treatment. We expect that our diagnostic platform will deliver multiple benefits over existing technology, including speed of results with minimal sample preparation time to achieve real-time analysis of a sample in a disposable cuvette. We believe that assay testing with our platform can result in a definitive, reliable identification of fecal and urine infections within minutes. In addition to faster results and treatment, an added benefit to pet owners is expected to be the small sample size requirements, which are expected to reduce the burden of collection by the owner prior to the visit.

We have filed a U.S. patent application covering compositions and methods for five fecal parasite detection assays for detecting parasitic infections in cats and dogs and submitted a U.S. provisional patent application covering compositions and methods for detecting urinary tract infections for use in our pathogen detection platform.

"Liquid Biopsy" Platform

We have performed initial development work on a circulating tumor cell (CTC) "liquid biopsy" platform for use in a reference lab setting as a canine cancer diagnostic. This platform is intended for use to detect canine cancers faster, more affordably and less invasively compared to existing methods, which can be expensive and cost prohibitive for pet owners. We have worked on the development of an assay for use with this platform that targets hard-to-diagnose canine cancers, such as hemangiosarcoma and osteosarcoma. This platform is being developed together with Celsee, Inc., or Celsee.

The liquid biopsy is a blood test that we believe has the potential to detect the presence of CTCs, which are cells that have shed from a primary tumor into neighboring blood vessels and are transported throughout the body's circulatory system. Diagnosing certain cancers in canines is difficult because the location of the tumor may make it difficult or risky to obtain cell material through a biopsy. In addition, the overall health of a canine may increase the risk of performing a biopsy. Our initial development work focused on testing for difficult to biopsy cancers such as hemangiosarcoma and osteosarcoma in canines. Other diagnostic technologies, such as advanced imaging, are expensive while others, such as histopathologic examination, may take several days or more to provide a definitive diagnosis. We believe that the detection of CTCs in the blood could provide strong clinical support for a cancer diagnosis without the need for an invasive tissue biopsy or other expensive or time-consuming diagnostic test.

We have done development work on an assay for the detection of a blood-borne lymphoma cancer intended for use with this liquid biopsy platform. Lymphomas represent approximately 10-25% of all cancers diagnosed in dogs.

The lymphoma assay is designed to identify specific genetic abnormalities using fluorescence in situ hybridization (FISH). FISH tests are regularly used for cancers in human medicine, such as the HER2 breast cancer test.

In early 2020, we successfully completed the development and manufacturing milestones for our liquid biopsy platform.

Consistent with our focus on the development of point-of-care diagnostic platforms, we intend to seek one or more partners for the further development and commercialization of the liquid biopsy platform.

Therapeutic Candidates

We have identified a number of drugs which have proven safe and effective in humans that we have sought to develop for use in canines and felines. We believe this development approach enables us to reduce the risks associated with obtaining regulatory approval for unproven product candidates and shortens the development timeline necessary to bring our product candidates to market.

We have four drug product candidates. Our lead drug product candidate is ZM-007, an oral suspension formulation of metronidazole, targeting the treatment of acute diarrhea in small dog breeds and puppies under nine pounds or four kilograms. Metronidazole suspension is only available as a compounded drug and is not approved by the FDA-CVM. An Investigational New Animal Drug, or INAD, was opened for ZM-007 with the Food and Drug Administration's Center for Veterinary Medicine, or FDA-CVM, in October 2016. The API in ZM-007 is metronidazole, which has been the subject of multiple studies in humans and has been approved for use in humans for decades.

Our second drug product candidate is ZM-012, a novel tablet formulation of metronidazole and a complementary formulation to ZM-007, targeting the treatment of acute diarrhea in dogs. Metronidazole tablets are currently only available as human generics, most commonly known as Flagyl®. An INAD was opened for ZM-012 with the FDA-CVM in April 2016. We have finalized the formulation and completed pilot testing of ZM-012 as a beef-flavored oral tablet intended for dogs greater than nine pounds or four kilograms and we completed pilot testing of ZM-012 in the fourth quarter of 2017. We intend to pursue regulatory approval of ZM-012 as a bioequivalent to ZM-007 following approval of ZM-007 by FDA-CVM. Drugs that are considered to be bioequivalent are, for regulatory purposes, essentially the same, meaning the absence of significant difference between the extent and rate of absorption over the course of a specific period of time at the same dose and under the same conditions. The implementation of this bioequivalent strategy is contingent on FDA-CVM approval of the new animal drug application (NADA) for ZM-007. If the FDA-CVM permits us to rely on the bioequivalence of ZM-012 to ZM-007, we anticipate that this regulatory pathway will conserve significant development costs because a bioequivalence study could replace the need for pivotal safety and efficacy studies for ZM-012.

Our third drug product candidate is ZM-006, a transdermal gel formulation of methimazole targeting the chronic treatment of hyperthyroidism in cats. Hyperthyroidism is one of the most commonly diagnosed endocrine disorders in middle-aged to older cats according to the American Association of Feline Practitioners. We are investigating ZM-006 pursuant to an INAD opened with the FDA-CVM in June 2016. The API in ZM-006, methimazole, most commonly known as Tapazole®, has been the subject of multiple studies in humans and has been approved for oral use in humans for decades. Our transdermal gel formulation is intended to provide an alternative to an oral tablet formulation already approved by the FDA-CVM for cats, known as Felimazole®. Felimazole® is a twice a day oral dose whereas the Zomedica ZM-006 formulation is a transdermal once daily dose. We do not believe that the API in ZM-006 is protected by any patents or other proprietary rights of third parties. ZM-006 is intended for application to the inside of the cat's ear. We conducted a pilot efficacy study at the University of Georgia College of Veterinary Medicine and Quakertown Veterinary Clinic, an American Animal Hospital Association (AAHA) accredited hospital, that concluded December 2019 and results are being evaluated.

We do not believe that the API in ZM-007 is protected by any patents or other proprietary rights of third parties in the U.S. We had a pre-submission meeting on December 13, 2017 with the FDA-CVM specific to the product development strategy for ZM-007 and ZM-012, a bioequivalent to ZM-007. Based on the feedback received from the FDA-CVM at that meeting and in light of additional market research demonstrating approved alternatives to compounded drugs, we have decided to prioritize development of ZM-007 over ZM-012.

Our fourth drug product candidate is ZM-011, a transdermal gel formulation of fluoxetine, most commonly known as Prozac®, its human pharmaceutical brand name. We believe that Fluoxetine in pill or compounded form is frequently prescribed by veterinarians to treat feline behavioral disorders such as inappropriate urination. We are investigating ZM-011 pursuant to an INAD opened with the FDA-CVM in January 2017. The API, fluoxetine, has been the subject of multiple studies in humans and has been approved for use in humans for decades. We do not believe that the API in ZM-011 is protected by any patents or other proprietary rights of third parties. ZM-011 is a transdermal gel formulation intended for application to the inside of the cat's ear. The formulation of ZM-011 has been completed.

Consistent with our focus on the development of point-of-care diagnostic platforms, we intend to seek one or more partners for the further development of our therapeutic candidates.

License Agreements

In November 2018, we entered into a development and supply agreement with Qorvo focused on bringing Qorvo's piezo-electric BAW sensor to the veterinary health sector. Under the terms of this agreement, we have exclusive, global rights to develop and market Qorvo's investigational point-of-care diagnostic platform for veterinary use. Under the agreement, Qorvo and we will collaborate on the development of veterinary diagnostic assays. The joint development work initially targets five assay cartridge candidates to detect the thyroid and adrenal disorders in dogs and cats. Qorvo is responsible for the development of the assay cartridges and the instrument. We have agreed to pay for the associated non-recurring engineering costs of up to $500,000 per assay cartridge and the instrument and are responsible for the validation of the assay cartridges and the instrument. Qorvo will supply us, on an exclusive basis, with the instruments and the related assay cartridges to be developed under the agreement pursuant to a rolling forecast, subject to specified minimum purchase requirements, at prices specified in the agreement. We will be responsible for the marketing and sale of the disposable assay cartridges and instruments.

The agreement, which is exclusive worldwide in the practice of veterinary medicine for the health and wellbeing of any non-human animal, has an initial term of ten years (subject to early termination and extension in certain circumstances).

We paid Qorvo $1.0 million and issued to Qorvo unregistered common shares having a value of $4.4 million, consisting of an aggregate of 2,565,789 common shares with an ascribed price of $1.52 per share. We paid an additional $5 million of milestone payments in the first quarter of 2019. We have agreed to pay Qorvo additional milestone payments in cash or, if elected by Qorvo, additional unregistered common shares having a value calculated as specified in the agreement. The total amount of additional milestone payments (if all milestones are met) will be $5 million (if paid entirely with cash) or up to $5.45 million (consisting of cash in the amount of $3.5 million and unregistered common shares having a value of $1.95 million, if Qorvo elects to receive compensation partially in equity). In connection with the agreement, we entered into a registration rights agreement providing Qorvo with certain registration rights with respect to the common shares to be issued by us under the agreement.

In May 2018, we entered into a development, commercialization and exclusive distribution agreement with Seraph, a human biomedical device company. Under the terms of this agreement, we have exclusive global veterinary industry rights to develop and market a novel pathogen detection system in the form of a point-of-care diagnostic instrument. The agreement covers development and validation of our fecal/urine pathogen detection assays. We are responsible for development and validation, and their associated costs. Seraph will supply us, on an exclusive basis, with the hardware platform, associated software and the consumables to be developed under the agreement, pursuant to a rolling forecast, at prices specified in the agreement. We will be responsible for the marketing and sale of the hardware platform, associated software and the consumables. The agreement, which is exclusive to the field of global veterinary diagnostic applications, has a term of seven years (subject to adjustment in certain circumstances) and automatically renews for additional one-year terms thereafter.

We paid Seraph up-front fees of $500,000 and issued to Seraph unregistered common shares having a value of $1,238,513, consisting of an aggregate of 641,717 common shares at an ascribed price of $1.9479 per share. Seraph is entitled to additional payments for development costs. Seraph will be entitled to receive up to an additional $7,000,000, payable 50 percent in cash and 50 percent in additional unregistered common shares, upon the achievement of a series of staged, specified milestones, including completion of laboratory studies and field studies, production and commercial shipment of products. Seraph is entitled to certain registration rights with respect to the common shares to be issued by us under the agreement. In addition, we have agreed to pay Seraph license fees based on a percentage of gross profit from commercial sales of the product.

In January 2017, we entered into a collaborative research agreement with Celsee, a developer of diagnostics for the detection and quantification of cells and other markers. Subsequent to this agreement, in December 2017, we entered into a license and supply agreement with Celsee for exclusive global rights to develop and market Celsee's liquid biopsy platform. The agreement with Celsee covers the development and commercialization of liquid biopsy assays and related consumables for the detection of cancer in companion animals.

We paid Celsee up-front fees of $500,000 and issued to Celsee unregistered common shares having a value of $230,131, consisting of an aggregate of 112,314 common shares at an ascribed price of $2.2259 per share. We issued Celsee an additional 657,894 unregistered common shares having a value of $1 million at an ascribed price of $1.52. upon the achievement of specified milestones-namely, completion of product development and upon successful completion of manufacturing milestones. All milestone payments to Celsee were satisfied as of December 31, 2019.

In January 2020, we amended and restated the Celsee agreement to acknowledge the completion of the initial development work and to provide for definitive supply and pricing terms for the liquid biopsy instrument and related consumables.

Under the terms of the restated agreement, we continue to have veterinary oncology care exclusive global rights to develop and market Celsee's liquid biopsy platform for use by veterinarians as a cancer diagnostic.

Celsee will supply us on an exclusive basis with the assays and the consumables for the products to be developed under the agreement pursuant to a rolling forecast to be provided by us at prices specified in the agreement. We will be responsible for the marketing and sale of the assays and the related consumables. The agreement, which is exclusive in the field of veterinary cancer diagnostic applications, has a term of five years (subject to termination in certain circumstances) and automatically renews for additional two-year terms thereafter (subject to either party determining not to renew).

Research and Development

We engage in development work on our diagnostic platforms in conjunction with our strategic partners. We also engage in research and development activities relating to our drug product candidates. We use various contract research organizations, or CROs, to assist in performing our research and development activities.

In connection with these activities, we have incurred and will continue to incur significant research and development expenses. Our research and development expenses were $10,345,291 for the year ended December 31, 2019 and $10,317,153 for the year ended December 31, 2018.

Sales and Marketing

We intend to commercialize our diagnostic products with a direct sales force and industry partners. We intend to market these products directly to veterinarians whom we believe are self-motivated to utilize advanced diagnostics in order to improve the health of companion animals, while also generating additional revenue.

We intend to seek partners to continue development and commercialization of our liquid biopsy platform and our therapeutic assets.

We believe our strategy of marketing directly to veterinarians is consistent with the current practice of veterinarians who perform some of their own diagnostic tests and send other diagnostic samples to reference labs for analysis. We also intend to selectively utilize distributors, which we believe will enable us to expand our commercial reach to a majority of all veterinarians in our chosen markets. We believe that we can compete effectively with a combination of our own direct sales force and complementary distributors.

To support our marketing efforts, we introduced a unique "Voice of the Vet" program in the fourth quarter of 2016 to gather insights and better understand the needs of veterinarians and their practices, and to gauge interest for potential future product offerings, while building brand awareness as a valued veterinary partner. Our Voice of the Vet program allows veterinarians, practice managers and veterinary technicians to participate in conversations where they can share ideas and experiences with each other, as well as with us through an interactive platform.

During 2019, we have increased our investment in building brand and product awareness as a valued veterinary partner with clinical practitioners.

Additionally, we are continuing to conduct comprehensive market research across the United States with private, corporate and institutional clinics along with key opinion leaders and academia to obtain feedback on our product development efforts and to build relationships with key market influencers.

Manufacturing

We have no internal manufacturing capabilities for our diagnostic and therapeutic product candidates.

Under our license and supply agreements, Qorvo, Seraph and Celsee are responsible for the manufacture and supply of the equipment and consumables to us. These strategic partners have primary responsibility for assuring that all products will be manufactured in accordance with applicable laws and meet all agreed upon specifications.

To ensure a dependable and high-quality supply of the APIs for our pilot studies and pivotal trials, we rely on cGMP-compliant contract manufacturers. Because the APIs in our drug product candidates are used in human drugs that are no longer subject to patent protection, we believe that there are multiple contract manufacturers for our drug product candidates that have demonstrated the ability to provide high-quality formulated products more cost effectively than we could on our own. We believe that the contract manufacturers of our trial supplies will be able to provide commercial supplies of any of our drug product candidates that are approved for marketing.

While we and our contract manufacturers have historically been able to obtain supplies of the APIs for development of our drug product candidates, neither we nor our contract manufacturers have long-term supply agreements with the API manufacturers. We also have no agreements for commercial-scale supply of the API or manufacture of any of our drug product candidates.

Intellectual Property

We intend to rely primarily upon a combination of in-licensing exclusive rights, regulatory exclusivity, proprietary know-how, and confidentiality agreements to protect our diagnostic assays, product formulations, processes, methods and other technologies and to preserve any trade secrets and operate without infringing on the proprietary rights of other parties, both in the United States and in other countries. We currently do not own any issued patents, although we intend to apply for patent protection where feasible

Our diagnostic technologies are dependent on intellectual property developed by our strategic partners and licensed to us. We do not own the intellectual property rights that underlie these technology licenses. Our rights to use the technology we license are subject to the negotiation of, continuation of and compliance with the terms of our licenses. However, we have filed four U.S. patent applications and two Patent Cooperation Treaty (PCT) applications for U.S. and international protection of our diagnostic tests. Three of these applications cover tests developed for our liquid biopsy platforms, and one covers pathogen detection.

Because our drug product candidates are based on approved human drugs that no longer are subject to patent protection, there is little, if any, composition-of-matter patent protection available for the API in these product candidates. Where feasible, however, we intend to pursue the broadest intellectual property protection possible for our compounds and any proprietary technology through enhanced formulations of our drug product candidates. However, even intellectual property protection, if available, may not afford us with complete protection against competitors.

We depend upon the skills, knowledge and experience of our management personnel, as well as that of our other employees, advisors, consultants and contractors, none of which are patentable. To help protect our know-how, and any inventions for which patents may be difficult to obtain or enforce, we require all of our employees, consultants, advisors and other contractors to enter into customary confidentiality and inventions agreements that prohibit the disclosure of confidential information and, where applicable, require disclosure and assignment to us of the ideas, developments, discoveries and inventions important to our business.

Competition

Diagnostics

Our potential competitors include large human pharmaceutical and medical diagnostics companies, small businesses focused on animal health, and reference laboratory services provided by academic institutions and in-clinic product providers. These competitors include Idexx Laboratories, Inc., Antech Diagnostics, a unit of VCA Inc., Abaxis, Inc., a wholly-owned subsidiary of Zoetis Inc., Heska Corporation and Zoetis Inc.

Therapeutics

If our drug product candidate is the first one approved by the FDA-CVM for use in animals, it may be eligible for between three and seven years of regulatory exclusivity in the United States, depending on the type of product and its intended use. However, while there are fewer competitors in the pet therapeutics industry than in the human pharmaceutical industry, the development and commercialization of new animal health medicines is highly competitive, and we expect competition from major pharmaceutical, biotechnology and specialty animal health medicine companies.

Our potential competitors include large animal health companies, which currently derive a significant portion of their revenue from livestock medications. Large animal health companies include Merck Animal Health, the animal health division of Merck & Co., Inc.; Elanco; Bayer Animal Health, the animal health division of Bayer AG; Novartis Animal Health, the animal health division of Novartis AG; Boehringer Ingelheim Animal Health, the animal health division of Boehringer Ingelheim GmbH; and Zoetis, Inc., as well as European companies such as Virbac S.A., Vetoquinol S.A., and Dechra Pharmaceuticals PLC. We are also aware of several smaller early stage companies that are developing products for use in the pet therapeutics market, including Kindred Biosciences, Inc., Aratana Therapeutics, Inc., Parnell Pharmaceuticals Holdings Ltd., and Jaguar Animal Health, Inc. Our drug product candidates will also face competition from medicines and products approved for use in humans that are used off-label for pets. Private organizations, academic institutions and government agencies conducting animal health product research are also considered potential competitors.

General

Many of our competitors and potential competitors have substantially more financial, technical, and human resources than we do. Many also have far more experience in the development, manufacture, regulation and worldwide commercialization of animal diagnostics and animal health medicines, including pet therapeutics. We also expect to compete with academic institutions, governmental agencies and private organizations that are conducting research in the fields of animal diagnostics and animal health medicines. If such competing products achieve regulatory approval and commercialization prior to our product candidates, or if our intellectual property protection and efforts to obtain regulatory exclusivity fail to provide us with exclusive marketing rights for some of our products, we may be unable to effectively compete in the markets in which we participate.

Government Regulation

Diagnostic Product Candidates

Our diagnostic product candidates may be subject to regulatory review by the USDA-CVB and/or post-marketing oversight by the USDA-CVB or FDA-CVM. Generally speaking, full diagnostic kits aimed at the detection or diagnosis of an infectious disease in animals, including the materials required for testing along with instructions for use and interpretation of results, used at the point-of-care, including in-office diagnostic tests, may be subject to pre-market regulatory review and approval by the USDA-CVB. The USDA-CVB's review process for diagnostics is subject to some variability based on the type of diagnostic kit being reviewed, however, the USDA-CVB will generally review the results of specific tests that are required to be conducted in accordance with the USDA-CVB's testing criteria. These include diagnostic sensitivity/specificity studies, conducted using a large number of samples of U.S. origin, reproducibility/repeatability/suitability studies used to evaluate test kits under field conditions in participating laboratories and ruggedness studies in which manufacturers measure the ruggedness or robustness of the diagnostic test kits based on the capacity of the assay to remain unaffected by small variations in or deviations from the instructions for use (for example, not allowing the samples to reach the designated temperature). Diagnostic products and testing kits that do not claim to detect or diagnose an infectious disease and that are not designed for use at the point-of-care are generally subject only to post-marketing oversight by the FDA-CVM or the USDA-CVB. While the sale of these products does not require premarket approval by the FDA-CVM and does not subject us to the FDA-CVM's cGMP requirements, these products must not be adulterated, mislabeled or misbranded under the Federal Food, Drug and Cosmetic Act, or the FDC Act, and are subject to post-marketing review.

Drug Product Candidates

The FDA-CVM regulates animal pharmaceuticals under the FDC Act. In order to obtain regulatory approval to market a drug product candidate in the U.S., an applicant must demonstrate that the product candidate is safe, effective and produced by a consistent method of manufacture. Post-approval monitoring of products is required by law, with reports being provided to the FDA-CVM's Surveillance and Compliance group. Reports of product quality defects, adverse events or unexpected results are required in accordance with the law.

Prior to commencing testing of a drug product candidate, an applicant is required to open an INAD with the FDA-CVM. Formulation work and pilot testing occurs once the INAD is opened. This is followed by a pre-submission conference with the FDA-CVM to discuss and agree on a proposed development plan, including the design of pivotal safety and clinical trials that would support approval of a new animal drug application, or NADA.

Early pilot studies may be conducted in laboratory animals to establish clinical endpoints and the dose range for a new drug product candidate. Data on how well the drug is absorbed when dosed by different routes of administration and the relationship of the dose to the effectiveness are studied.

During development, the applicant will usually submit a proposed pivotal trial protocol to the FDA-CVM for review and concurrence prior to conducting the trial. The applicant must gather and submit data on manufacturing, safety and effectiveness to the FDA-CVM for review.

The pivotal clinical trial must be conducted with the formulation of the drug product candidate that is intended to be commercialized, and is a multi-site, randomized, controlled study, generally with a placebo control. To reduce bias in the study, individuals doing the assessment are not told whether the subject is in the group receiving the treatment being tested or the placebo group.

Once all data have been submitted and reviewed for each technical section - safety, effectiveness and chemistry, manufacturing and controls, or CMC - the FDA-CVM issues a “technical section complete letter” as each section review is completed, and when all three letters have been issued, the applicant prepares a draft of the Freedom of Information Summary, the proposed labeling, and all other relevant information, and submits these for FDA review. An administrative NADA is a NADA that is submitted after all of the technical sections that fulfill the requirements for the approval of the new drug product candidate have been reviewed by FDA-CVM and FDA-CVM has issued a technical section complete letter for each of those technical sections. Although this process is not required and submission of a non-administrative NADA is also acceptable, we plan to take advantage of the administrative NADA process to obtain a timelier phased review. Because FDA-CVM has already reviewed the individual technical sections before the administrative NADA is filed, FDA-CVM is committed under the Animal Drug User Fee Act (ADUFA) to reviewing and acting on 90% of administrative NADAs within 60 days after submission. The FDA-CVM user fee goal is to review and act on 90% of non-administrative NADAs within 180 days after submission. After approval, we will be required to collect reports of adverse events and submit them on a regular basis to the FDA.

Other Regulatory Considerations

Regulatory rules relating to human food safety, food additives, or drug residues in food will not apply to our product candidates because our product candidates are not intended for use in food animals or food production animals.

Advertising and promotion of animal health products is controlled by regulations in the United States. These rules generally restrict advertising and promotion to those claims and uses that have been reviewed and authorized by the FDA-CVM.

Any drug product candidate, if approved, may eventually face generic competition in the United States. In the United States, a generic animal drug may be approved pursuant to an Abbreviated New Animal Drug Application, or ANADA. Instead of demonstrating the drug's safety and effectiveness in the target species as required in a NADA, a generic applicant must only show that the proposed generic product is the same as, and bioequivalent to, the approved brand name product. However, if any of our drug product candidates is the first one approved by the FDA-CVM for use in animals, it will be eligible for between three and seven years of regulatory exclusivity in the United States, depending on the type of product and its intended use.

We will be required to conduct post-approval monitoring of any approved product and to submit reports of product quality defects, adverse events or unexpected results, and be subject to regulatory inspection from time to time. Safety, quality, or efficacy concerns can lead to product recalls, withdrawals or suspended or declining sales, as well as product liability and other claims.

Employees

As of December 31, 2019, we had 28 employees. Of our employees, ten are engaged in research and development activities, seven are engaged in business development and marketing activities, and eleven are engaged in corporate and administrative activities. None of our employees are represented by labor unions or covered by collective bargaining agreements.

Properties

Our corporate headquarters and research and development laboratory are located in Ann Arbor, Michigan where we lease and occupy approximately 16,226 feet pursuant to a lease that expires January 31, 2025. In February 2020 we entered into an amended lease agreement whereby our original lease for approximately 26,540 square feet of space was bought out and a new lease was issued for 16, 226 square feet of office space

Legal Proceedings

On November 1, 2019, Heska Corporation ("Heska") filed a complaint for damages and injunctive relief (the "Complaint") in the United States District Court for the Middle District of North Carolina, Case 1:19-cv-01108-LCB-JLW, against Qorvo US, Inc. ("Qorvo US"), Qorvo Biotechnologies, LLC ("Qorvo Biotech" and, together with Qorvo US, "Qorvo") and the Company (collectively with Qorvo, the "Defendants"). The Complaint alleges, among other things, that the Defendants improperly obtained Heska's trade secrets and confidential information and/or conspired to use improper means to misappropriate Heska's trade secrets related to an instrument and related consumable products for performing immunoassay analysis of biomarkers and other substances. The Complaint seeks compensatory and exemplary damages, as well as preliminary and permanent injunctive relief to prevent the Defendants from commercializing the Company's TRUFORMA™ diagnostic instrument. On January 21, 2020, the Defendants filed a motion seeking dismissal of the Complaint. On February 11, 2020, Heska filed its response to the Defendants' motion to dismiss to which the Defendants responded on February 25, 2020. The Company believes that the allegations in the Complaint have no merit and will not have a material adverse effect on the Company's business, results of operations or financial condition, and the Company reaffirms its intention to commence the commercialization of its TRUFORMA™ platform by the end of 2020.

Under the terms of the Development and Supply Agreement, dated November 26, 2018, by and between Qorvo Biotech and the Company (the "Qorvo Agreement"), Qorvo Biotech agreed to indemnify the Company and certain related parties against claims alleging infringement or misappropriation of third-party intellectual property rights, subject to certain limitations and exceptions. Qorvo Biotech has notified the Company that Qorvo Biotech has assumed the defense of the Complaint and will indemnify the Company for losses arising from the Complaint in accordance with the terms of the Qorvo Agreement. Qorvo Biotech has further advised the Company that it intends to mount a vigorous defense to the claims in the Complaint, and that it believes the allegations contained in the Complaint are without merit.

Corporate Information

Zomedica Pharmaceuticals Corp. (formerly, Wise Oakwood Ventures Inc.) was originally incorporated as Wise Oakwood Ventures Inc. on January 7, 2013 under the *Business Corporations Act* (Alberta). On October 28, 2013, we completed our initial public offering in Canada and became classified as a Capital Pool Company, as defined under the rules of the TSX Venture Exchange, or TSX-V. On April 21, 2016, we changed our name to Zomedica Pharmaceuticals Corp. and consolidated our common shares on a one-for-two and one-half (2½) basis. ZoMedica Pharmaceuticals Inc., or ZoMedica Inc., was incorporated on May 14, 2015 under the *Canada Business Corporations Act*. On April 21, 2016, we completed a qualifying transaction, or the Qualifying Transaction, under TSX-V Policy 2.4 - *Capital Pool Companies*, consisting of a three-cornered amalgamation among our company, ZoMedica Inc. and our wholly-owned subsidiary. Under the Qualifying Transaction, ZoMedica Inc. and our subsidiary were amalgamated to form Zomedica Pharmaceuticals Ltd., or Zomedica Ltd. As consideration for the amalgamation, shareholders of ZoMedica Inc. became the owners of 97.6% (non-diluted) of our common shares, and ZoMedica Ltd. became our wholly-owned subsidiary. Subsequent to the Qualifying Transaction, Zomedica Ltd. was vertically amalgamated into our company. We have one wholly-owned subsidiary, Zomedica Pharmaceuticals, Inc., a Delaware company. ZoMedica Inc. entered into the Qualifying Transaction in order to accomplish the following:

- Enable its shareholders to own shares in a company that was publicly traded on the TSX-V;
- Expand its shareholder base to include the public shareholders of Wise Oakwood; and
- Obtain access to the cash resources raised by Wise Oakwood in its initial public offering.

On November 10, 2017, our shares were approved for listing on the NYSE American under the symbol “ZOM”. On November 20, 2017 the U.S. Securities and Exchange Commission declared our registration statement on Form S-1 effective. Our common shares commenced trading on the NYSE American on November 21, 2017.

On February 10, 2020, we effected the voluntary withdrawal of our common shares from listing on the TSX-V.

Our principal executive offices are located at 100 Phoenix Drive, Suite 180, Ann Arbor, MI 48108, and our telephone number is (734) 369-2555. Our website address is www.zomedica.com. The information contained in, or accessible through, our website is not part of the registration statement of which this prospectus forms a part.

Item 1A. Risk Factors.

Risks Factors

Risks Related to our Business

We have a limited operating history, are not profitable and may never become profitable.

We are a development stage veterinary diagnostic and pharmaceutical company creating products for companion animals (canine, feline and equine) by focusing on the unmet needs of clinical veterinarians. Since the commencement of our business in May 2015, our operations have been primarily limited to the identification of product candidates and research and development of our diagnostic and drug product candidates. As a result, we have limited historical operations upon which to evaluate our business and prospects and we have not yet demonstrated an ability to obtain approval for any of our product candidates or successfully overcome the risks and uncertainties frequently encountered by companies in emerging fields such as the companion animal pharmaceuticals and health care solutions industries.

We also have not generated any revenue to date, and we expect to continue to incur significant research and development costs and other expenses. Our net loss and comprehensive loss for the years ended December 31, 2019 and December 31, 2018 was $19,784,054 and $16,647,687, respectively. Our accumulated deficit as of December 31, 2019 was $52,057,841. As of December 31, 2019, we had total shareholders' equity of $2,095,459. We expect to continue to incur losses for the foreseeable future, which will increase significantly from historical levels as we expand our product development activities (including conducting required clinical studies and trials), seek necessary approvals for our product candidates, and begin commercialization activities. Even if we succeed in developing and broadly commercializing one or more of our product candidates, we expect to continue to incur losses for the foreseeable future, and we may never become profitable. If we fail to achieve or maintain profitability, then we may be unable to continue our operations at planned levels and be forced to reduce or cease operations.

We will need to raise additional capital to achieve our goals.

We do not have any products approved for sale. Although we believe that we do not require pre-market approval from the U.S. Food and Drug Administration's Center for Veterinary Medicine, or the FDA-CVM, to market and sell TRUMFORMA™ , a Bulk Acoustic Wave sensor-based veterinary point-of-care diagnostic platform for performing immunodiagnostic testing, ZM-020, our Raman spectroscopy-based point-of-care diagnostic platform, nor ZM-017 and ZM-022, our circulating tumor cell, or CTC, diagnostic assay that we are developing, we do not expect to commence marketing of TRUMFORMA™ the second half of 2020.

Until, and unless, we receive approval from the FDA-CVM for our drug product candidates, we cannot market or sell our drug products in the United States and will have no material drug product revenue. Our lead drug product candidates are in the formulation, optimization and/or pilot study stage, and we have not yet begun pivotal trials. We anticipate that each of our drug product candidates will require approximately five years of development at a cost of approximately $6 million per drug product candidate before we expect to be able to apply for marketing approval in the United States. In addition, certain assays that we may choose to pursue for use in our diagnostic platforms may require pre-market regulatory approval.

We are also seeking to identify potential complementary opportunities in the veterinary diagnostics and therapeutics sectors. We will continue to expend substantial resources for the foreseeable future to develop our existing product candidates and any other product candidates that we may develop or acquire. These expenditures will include: costs of developing and validating our diagnostic product candidates and related assays and consumables; costs associated with drug formulation; costs associated with conducting pilot and pivotal trials and clinical studies; costs associated with completing other research and development activities; costs of identifying additional potential product candidates; costs associated with payments to technology licensors and maintaining other intellectual property; costs of obtaining regulatory approvals; costs associated with securing contract manufacturers to meet our commercial manufacturing and supply capabilities; and costs associated with marketing and selling our products. In addition, under our existing development agreements, we are required make significant cash milestone payments to our development partners and to pay certain development costs. We do not control the timing of these payments. We also may incur unanticipated costs. Because the outcome of our development activities and commercialization efforts is inherently uncertain, the actual amounts necessary to successfully complete the development and commercialization of our existing or future product candidates may be greater or less than we anticipate.

As a result, we will need to obtain additional capital to fund the development of our business. Except for our $5,000,000 unsecured working capital loan we have no existing agreements or arrangements with respect to any financings, and any such financings may result in dilution to our shareholders, the imposition of debt covenants and repayment obligations or other restrictions that may adversely affect our business or the value of our common shares.

Our future capital requirements depend on many factors, including, but not limited to:

- the scope, progress, results and costs of researching and developing our existing or future diagnostics and product candidates;
- the extent to which any of our future diagnostic assays may be subject to USDA-CVB pre-market regulation;
- the timing of, and the costs involved in, obtaining regulatory approvals for any of our existing or future diagnostics or product candidates;
- the number and characteristics of the diagnostics and/or product candidates we pursue;
- the cost of contract manufacturers to manufacture our existing and future diagnostics and product candidates and any products we successfully commercialize;
- the cost of commercialization activities if any of our existing or future diagnostics and product candidates are approved for sale, including marketing, sales and distribution costs;
- the expenses needed to attract and retain skilled personnel;
- the costs associated with being a public company;
- our ability to establish and maintain strategic partnerships, licensing or other arrangements and the financial terms of such agreements; and
- the costs involved in preparing and filing patent applications, maintaining any successfully obtained patents and protecting and enforcing any such patents.

Additional funds may not be available when we need them on terms that are acceptable to us, or at all. If adequate funds are not available to us on a timely basis, we may be required to delay, limit, reduce or terminate one or more of our product development programs or any future commercialization efforts.

The audit opinion on our financial statements contains a going concern modification.

As a result of our recurring losses from operations and our accumulated deficit, the opinion of our independent registered public accountants on our financial statements as of and for the year ended December 31, 2019 contains a going concern modification. If we are unable to continue as a going concern, we might have to liquidate our assets and the values we receive for our assets in liquidation or dissolution could be significantly lower than the values reflected in our financial statements. In addition, the inclusion of a going concern modification by our independent registered public accountants, our recurring losses, our accumulated deficit and our potential inability to continue as a going concern may materially adversely affect our share price and our ability to raise new capital or to enter into contractual relationships with third parties.

We are substantially dependent on the success of our lead product candidates and cannot be certain that any of them will be approved for marketing, to the extent applicable, or successfully commercialized.

We have no products approved for sale in any jurisdiction and are focused primarily on the development of our lead diagnostic candidates. Accordingly, our near-term prospects, including our ability to generate material product revenue, or enter into potential strategic transactions, will depend heavily on the successful development and commercialization of one or more of our lead candidates, which in turn will depend on a number of factors, including the following:

- the successful completion of clinical validation of our diagnostic product candidates, which may take significantly longer than we anticipate and will depend, in part, upon the satisfactory performance of our strategic partners and third-party contractors;
- the ability of our third-party contract manufacturers to manufacture supplies of any of our product candidates and to develop, validate and maintain viable commercial manufacturing processes that are compliant with Good Manufacturing Practices or GMP;
- our ability to successfully market any product candidate for which marketing approval is received, whether alone or in partnership with others;
- the availability, perceived advantages, relative cost, relative safety and relative efficacy of our product candidates compared to alternative and competing treatments;
- the acceptance of our product candidates as safe and effective by veterinarians, pet owners and the animal health community;
- our ability to achieve and maintain compliance with all regulatory requirements applicable to our business; and
- our ability to obtain and enforce our intellectual property rights and obtain marketing exclusivity for our product candidates, and avoid or prevail in any third-party patent interference, patent infringement claims or administrative patent proceedings initiated by third parties or the United States Patent and Trademark Office ("USPTO").

Many of these factors are beyond our control. Accordingly, we cannot assure you that we will be successful in developing or commercializing any of our product candidates. If we are unsuccessful or are significantly delayed in developing and commercializing our product candidates, our business and prospects will be materially adversely affected, and you may lose all or a portion of your investment.

We face unproven markets for our products candidates.

The companion animal therapeutic and diagnostic markets are less developed than the human therapeutic and diagnostic markets and as a result no assurance can be given that our product candidates will be successful. Veterinarians, pet owners or other veterinary health providers in general may not accept or utilize any products that we may develop.

The companion animal care industry is subject to rapidly changing technology, which could make our product candidates obsolete.

The companion animal care industry is characterized by rapid technological changes, frequent new product introductions and enhancements, and evolving industry standards, all of which could make our product candidates obsolete. Our future success will depend on our ability to keep pace with the evolving needs of our customers on a timely and cost-effective basis and to pursue new market opportunities that develop as a result of technological and scientific advances. We must continuously enhance our product offerings to keep pace with evolving standards of care. If we do not update our product offerings to reflect new scientific knowledge or new standards of care, our product candidates could become obsolete, which would have a material adverse effect on our business, financial condition, and results of operations.

Our ability to successfully develop and commercialize our existing and any future product candidates will depend on several factors, including:

- our ability to convince the veterinary community of the clinical utility of our products and their potential advantages over existing tests and therapies;
- the willingness or ability by pet owners to pay for our products and the willingness of veterinarians to recommend our products;
- the willingness of veterinarians to utilize our diagnostic tests; and
- where applicable, the willingness of testing labs to buy our assay equipment.

Our dependence on suppliers could limit our ability to develop and commercialize certain products

We rely on third-party suppliers to provide components in our product candidates, manufacture products that we do not manufacture ourselves and perform services that we do not provide ourselves. Because these suppliers are independent third parties with their own financial objectives, actions taken by them could have a materially negative effect on our results of operations. The risks of relying on suppliers include our inability to enter into contracts with third-party suppliers on reasonable terms, inconsistent or inadequate quality control, relocation of supplier facilities, supplier work stoppages and suppliers' failure to comply with applicable regulations or their contractual obligations. Problems with suppliers could materially negatively impact our ability to complete development, supply the market, lead to higher costs or damage our reputation with our customers.

In addition, we currently purchase many products and materials from sole or single sources. Some of the products that we purchase from these sources are proprietary and, therefore, cannot be readily or easily replaced by alternative sources. To mitigate risks associated with sole and single source suppliers, we will seek when possible to enter into long-term contracts that provide for an uninterrupted supply of products at predictable prices. However, some suppliers may decline to enter into long-term contracts, and we are required to purchase products with short term contracts or on a purchase order basis. There can be no assurance that suppliers with which we do not have contracts will continue to supply our requirements for products, that suppliers with which we do have contracts will always fulfill their obligations under these contracts, or that any of our suppliers will not experience disruptions in their ability to supply our requirements for products. In cases where we purchase sole and single source products or components under purchase orders, we are more susceptible to unanticipated cost increases or changes in other terms of supply. In addition, under some contracts with suppliers we have minimum purchase obligations, and our failure to satisfy those obligations may result in loss of some or all of our rights under these contracts or require us to compensate the supplier. If we are unable to obtain adequate quantities of products in the future from sole and single source suppliers, we may be unable to supply the market, which could have a material adverse effect on our results of operations.

The commercial potential of our product candidates is difficult to predict. The market for any product candidate, or for companion animal diagnostics and therapeutics overall, is uncertain and may be smaller than we anticipate, which could significantly and negatively impact our revenue, results of operations and financial condition.

We believe that the emerging nature of our industry and our unproven business plan make it difficult to estimate the commercial potential of any of our product candidates. The market for any product that we seek to commercialize will depend on important factors such as the cost, utility and ease of use of our diagnostic assays, the safety and efficacy of our drug candidates compared to other available treatments, including potentially less expensive human pharmaceutical alternatives with similar efficacy profiles, changing standards of care, preferences of veterinarians, the willingness of pet owners to pay for such products, and the availability of competitive alternatives that may emerge either during the product development process or after commercial introduction. If the market potential for our product candidates is less than we anticipate due to one or more of these factors, it could negatively impact our business, financial condition and results of operations. Further, the willingness of pet owners to pay for our product candidates, if approved, may be less than we anticipate, and may be negatively affected by overall economic conditions. Because relatively few pet owners purchase insurance for their companion animals, pet owners are more likely to have to pay for our products directly and may be unwilling or unable to pay for any such products.

We face competition from the validated human drugs from which our drug candidates are developed which are not subject to patent protection and which are already used "off-label" in animals.

Our lead drug product candidates include APIs already demonstrated safe and effective in humans and we expect that our future drug product candidates will be similarly based on such APIs. We do not engage in research or discovery of novel therapeutics but focus on drug product candidates with APIs that have been successfully commercialized or demonstrated to be safe and effective in humans, which we sometimes refer to as validated. We expect that there will be little, if any, third-party patent protection of the APIs in our drug product candidates. As a result, our drug product candidates may face competition from their human equivalents in situations where such equivalents are available and used in unapproved animal indications, which is known as off-label use. There is no assurance that the eventual prices of our drug products will be lower than or competitive with the prices of the human equivalents used off-label, or that a palatable, easy-to-administer formulation will be sufficient to differentiate them from their human equivalents.

Our product candidates will face significant competition and may be unable to compete effectively.

The development and commercialization of veterinary diagnostics and pharmaceuticals is highly competitive, and our success depends on our ability to compete effectively with other products in the market and identify potential partners for continued development and commercialization.

There are a number of competitors in the diagnostic market that have substantially greater financial and operational resources and established marketing, sales and service organizations. We expect to compete primarily with commercial clinical laboratories, hospitals' clinical laboratories and other veterinary diagnostic equipment manufacturers. Our principal competitors in the veterinary diagnostic market are IDEXX Laboratories, Inc., Antech Diagnostics, a unit of VCA Inc., Abaxis, Inc., a wholly-owned subsidiary of Zoetis Inc., Heska Corporation and Zoetis Inc. We must develop our distribution channels and build our direct sales force in order to compete effectively in these markets. If we are unable to effectively manage our distribution channels in our highly competitive industry, we may fail to retain customers or obtain new customers and our business will suffer.

If our drug product candidates are approved, we expect to compete with large animal health companies including Merck Animal Health, the animal health division of Merck &Co., Inc.; Elanco Animal Health Incorporated; Bayer Animal Health, the animal health division of Bayer AG; Boehringer Ingelheim Animal Health, the animal health business unit of Boehringer Ingelheim GmbH; and Zoetis Inc., as well as European companies such as Virbac S.A., Vetoquinol S.A. and Dechra Pharmaceuticals PLC We are also aware of several smaller early stage companies that are developing products for use in the pet therapeutics market, including Kindred Biosciences, Inc., Aratana Therapeutics, Inc., . (a wholly owned subsidiary of Elanco Animal Health as of July 2019), Parnell Pharmaceuticals Holdings Ltd. and Jaguar Animal Health, Inc. We also expect to compete with academic institutions, governmental agencies and private organizations that are conducting research in the field of animal health medicines.

We target drug product candidates for which the API, while having been approved for use in human drugs, has not been previously approved for use in animals. If we are the first to gain approval for the use of such API in animals, our drug products will benefit from between three and seven years of marketing exclusivity in the United States for the approved indication. We also plan to differentiate our products, where possible, with alternative drug delivery systems that are more conducive to dosing for the target companion animal species, but we cannot assure you that we will be able to prevent our competitors from developing substantially similar products and bringing those products to market earlier than we are able to.

Our drug product candidates will face competition from various products approved for use in humans that are used off-label in animals, and all our products will face potential competition from new products in development. These and other potential competing products may benefit from greater brand recognition and brand loyalty than our drug product candidates may achieve.

Many of our competitors and potential competitors have substantially more financial, technical and human resources than we do. Many also have far more experience than we have in the development, manufacture, regulation and worldwide commercialization of animal health medicines, including pet therapeutics. We also expect to compete with academic institutions, governmental agencies and private organizations that are conducting research in the fields of animal diagnostics and animal health. If such competing products are commercialized prior to our product candidates, or if our intellectual property protection and efforts to obtain regulatory exclusivity fail to provide us with exclusive marketing rights for some of our therapeutic products, we may be unable to compete effectively in the markets in which we participate. Contractual agreements between clinics and from competitors may limit practices' ability to use other tests and technologies due to predetermined minimums in those agreements.

Our ability to develop, manufacture and commercialize our drug product candidates is dependent on our establishing and maintaining relationships with GMP-compliant third-party manufacturers.

We have no internal manufacturing capabilities and we do not plan to develop such capabilities. As a result, our ability to manufacture and commercialize our product candidates is substantially dependent on our ability to ensure a dependable and high-quality supply of the APIs required for our pilot studies and pivotal trials and for future commercial manufacturing. We currently believe that, because the APIs used in our drug product candidates have been used in human drugs, there are multiple GMP-compliant manufacturers available that will be able to supply these APIs and that the contract manufacturers we currently use for our trial supplies will be able to provide commercial supplies of any of our drug product candidates. While we have historically been able to obtain the necessary supplies of our APIs for our development work, we cannot be certain that either we or our contract manufacturers will continue to be able to provide the necessary API supply. Neither we nor our contract manufacturers have long-term supply contracts with API manufacturers, and we have no agreements in place for the commercial-scale supply of any API or the manufacture of any of our drug product candidates. If we are unable to procure the requisite apply of an API or to contract with a GMP-complaint third-party manufacturer, we may be unable to continue to develop, manufacture or commercialize any of our product candidates and our business may fail to grow or develop.

The results of earlier studies may not be predictive of the results of our pivotal trials, and we may be unable to obtain regulatory approval for our existing or future diagnostic or drug product candidates under applicable regulatory requirements or maintain any regulatory approval obtained. The denial, delay or loss of any regulatory approval would prevent or delay our commercialization efforts and adversely affect our financial condition and results of operations.

The research, testing, manufacturing, labeling, approval, sale, marketing and distribution of our product candidates are subject to extensive regulation. We will not be permitted to market our drug product candidates in the United States until we receive approval of a New Animal Drug Application, or NADA, from the FDA-CVM and may not be able to market and sell any point-of-care diagnostic products without pre-marketing approval from the USDA-CVB. To gain approval to market a pet pharmaceutical or point-of-care diagnostic product kit for a particular species, we must provide the FDA-CVM or the USDA-CVB, as applicable, with efficacy data from pivotal trials that adequately demonstrate that our product candidates are safe and effective in the target species for the intended indications. In addition, we must provide manufacturing data. For the FDA-CVM, we must provide data from safety testing and clinical data, also called target animal safety studies. Similarly, for the USDA-CVB, we must provide the results of specific tests required to be conducted in accordance with the USDA-CVB's guidelines demonstrating the sensitivity/specificity, reproducibility/repeatability/suitability and the ruggedness or robustness of the relevant diagnostic kit. Either of the FDA-CVM or the USDA-CVB may also require us to conduct costly post-approval testing and/or collect post-approval safety data to maintain our approval for any product candidate or diagnostic. The results of our pivotal studies and other initial development activities, and the results of any previous studies in humans or animals conducted by us or third parties, may not be predictive of future results of pivotal trials or other future studies, and failure can occur at any time during or after pivotal studies and other development activities by us or our contract research organizations or CROs. Our pivotal studies may fail to show the desired safety or efficacy of our product candidates despite promising initial data or the results in previous human or animal studies conducted by others, and the success of a product candidate in prior animal studies, or in the treatment of human beings, does not ensure success in subsequent studies. Clinical trials in humans and pivotal trials in animals sometimes fail to show a benefit even for drugs that are effective, because of statistical limitations in the design of the trials or other statistical anomalies. Therefore, even if our studies and other development activities are completed as planned, the results may not be sufficient to obtain regulatory approval for our product candidates.

The FDA-CVM or the USDA-CVB can delay, limit, deny or revoke approval of any of our product candidates for many reasons, including:

- if the FDA-CVM or USDA-CVB disagrees with our interpretation of data from our pivotal studies or other development efforts;
- if we are unable to demonstrate to the satisfaction of the FDA-CVM or the USDA-CVB that the product candidate is safe and effective for the target indication;
- if the FDA-CVM or USDA-CVB requires additional studies or changes its approval policies or regulations;
- if the FDA-CVM or USDA-CVB does not approve of the formulation, labeling or the specifications of our existing and future product candidates;
- if the FDA-CVM or USDA-CVB fails to approve the manufacturing processes of our third-party contract manufacturers; and
- if any approved product candidate subsequently fails post-approval testing required by the FDA-CVM or the USDA-CVB.

Further, even if we receive approval of our product candidates, such approval may be for a more limited indication than we originally requested, the FDA-CVM or USDA-CVB may not approve the labeling that we believe is necessary or desirable for the successful commercialization of our product candidates and we may be required to conduct costly post-approval testing. Any delay or failure in obtaining applicable regulatory approval for the intended indications of our product candidates would delay or prevent commercialization of such product candidates and would materially adversely impact our business and prospects.

Development of product candidates for use in companion animal health is an inherently expensive, time-consuming and uncertain, and any delay or discontinuance of validation or pivotal studies for our current or future product candidates would significantly harm our business and prospects.

Development of product candidates for use in companion animals is an inherently lengthy, expensive and uncertain process, and there is no assurance that our development activities will be successful. We do not know whether the validation studies or the pivotal studies of our drug product candidates, will begin or conclude on time, and they may be delayed or discontinued for a variety of reasons, including if we are unable to:

- address any safety concerns that arise during the course of the studies;
- complete the studies due to deviations from the study protocols, the occurrence of adverse events or, in the case of our validation studies, sensitivity and selectivity results that vary from our expectations;
- add new study sites;
- address any conflicts with new or existing laws or regulations; or
- reach agreement on acceptable terms with study sites, which can be subject to extensive negotiation and may vary significantly among different sites.

Any delays in completing our development efforts will increase our costs, delay our product candidate development and any regulatory approval process and jeopardize our ability to commence product sales and generate revenue. Any of these occurrences may significantly harm our business, financial condition and prospects. In addition, factors that may cause a delay in the commencement or completion of our development efforts may also ultimately lead to the denial of regulatory approval of our product candidates which, as described above, would materially, adversely impact our business and prospects.

Our strategic partnerships are important to our business. If we are unable to maintain any of these partnerships, or if these partnerships are not successful, our business could be adversely affected.

We have entered into a number of strategic partnerships that are important to our business and we expect to enter into similar partnerships as part of our growth strategy. These partnerships may pose a number of risks, including:

- partners may have significant discretion in determining the efforts and resources that they will apply to these partnerships;
- partners may not perform their obligations as expected;
- partners may not pursue development of our product candidates or may elect not to continue or renew development based on development results, changes in the partners' strategic focus or available funding, or external factors, such as an acquisition, that divert resources or create competing priorities;
- partners could independently develop, or develop with third parties, products that compete directly or indirectly with our products or product candidates if the partners believe that competitive products are more likely to be successfully developed or can be commercialized under terms that are more economically attractive than ours, which may cause partners to cease to devote resources to the development of our product candidates;
- disagreements with partners, including disagreements over proprietary rights, contract interpretation or the preferred course of development, might cause delays or termination of the research and development of product candidates, might lead to additional responsibilities for us with respect to product candidates, or might result in litigation or arbitration, any of which would be time-consuming and expensive;
- partners may not properly maintain or defend their intellectual property rights or may use proprietary information in such a way as to invite litigation that could jeopardize or invalidate the intellectual property or proprietary information or expose us to potential litigation;
- partners may infringe the intellectual property rights of third parties, which may expose us to litigation and potential liability;
- partners may learn about our technology and use this knowledge to compete with us in the future;
- there may be conflicts between different partners that could negatively affect those partnerships and potentially others; and
- the number and type of our partnerships could adversely affect our attractiveness to future partners or acquirers.

If any partnerships we enter into do not result in the successful development of our product candidates or if one of our partners terminates its agreement with us, we may not be able to successfully develop our product candidates, our continued development of our product candidates could be delayed and we may need additional resources to develop additional product candidates. All of the risks relating to our product development, regulatory approval and commercialization also apply to the activities of our partners and there can be no assurance that our partnerships will produce positive results or successful products on a timely basis or at all.

Additionally, subject to its contractual obligations to us, if a partner of ours is involved in a business combination or otherwise changes its business priorities, the partner might deemphasize or terminate the development of any technology licensed to it by us. If one of our partners terminates its agreement with us, we may find it more difficult to attract new partners and our perception in the business and financial communities and our stock price could be adversely affected.

We may in the future determine to partner with additional pharmaceutical and technology companies for development of additional product candidates. We face significant competition in seeking appropriate partners. Our ability to reach a definitive agreement for partnership will depend, among other things, upon our assessment of the partner's resources and expertise, the terms and conditions of the proposed partnership and the proposed partner's evaluation of a number of factors. If we are unable to reach agreements with suitable partners on a timely basis, on acceptable terms, or at all, we may not be able to access technologies that are important for the future development of our business. If we elect to fund and undertake development activities on our own, we may need to obtain additional expertise and additional capital, which may not be available to us on acceptable terms or at all. If we fail to enter into partnerships and do not have sufficient funds or expertise to undertake the necessary development activities, we may not be able to further develop our product candidates and our business may be materially and adversely affected.

Under the terms of our partnership arrangements, we are required to make significant milestone and other payments to our strategic partners. The timing of any such payments is uncertain and could adversely affect our cash flows and results of operations. If we are not able to make such payments when due, our business could be materially and adversely affected.

In November 2018, we entered into a development and supply agreement with Qorvo Biotechnologies, LLC, or Qorvo, a wholly-owned subsidiary of Qorvo, Inc. Under this agreement, Qorvo is responsible for the development of certain assay cartridges and the related instrument. We agreed to pay the associated non-recurring engineering costs of up to $500,000 per assay cartridge and the instrument and are responsible for the validation of the assay cartridges and the instrument. Under the terms of this agreement, we are required to pay Qorvo additional milestone payments in cash or, if elected by Qorvo, additional unregistered common shares having a value calculated as specified in the agreement. The total amount of additional milestone payments (if all milestones are met) will be $10 million (if paid entirely with cash) or up to $10.9 million (consisting of cash in the amount of $7 million and unregistered common shares having a value of $3.9 million, if Qorvo elects to receive compensation partially in equity). At December 31, 2018, $5 million of milestone payment have been paid in cash. Total remaining milestone payments will be $5 million if paid entirely in cash, or $3.5 million in cash and $1.95 in unregistered common shares, if elected.

In May 2018, we entered into a development, commercialization and exclusive distribution agreement with Seraph Biosciences, Inc., or Seraph. Under this agreement, we are responsible for development and validation, and their associated costs. Seraph is entitled to additional payments for development costs. Seraph will be entitled to receive up to an additional $7,000,000, payable 50 percent in cash and 50 percent in additional unregistered common shares, upon the achievement of a series of staged, specified milestones, including completion of laboratory studies and field studies, production and commercial shipment of products. In addition, we have agreed to pay Seraph license fees based on a percentage of gross profit from commercial sales of ZM-020. At December 31, 2019, all milestone payments remain unpaid.

We will rely on third parties to conduct certain portions of our development activities. If these third parties do not successfully carry out their contractual duties or meet expected deadlines, we may be unable to obtain regulatory approval for or commercialize our product candidates.

We have used contract manufacturing organizations ("CMOs") and contract research organizations ("CROs") to conduct our manufacturing and research and development activities. We expect to continue to do so, including with respect to our manufacturing, clinical validation, pilot studies and pivotal trials of our diagnostic and therapeutic product candidates. These CMOs and CROs are not our employees, and except for contractual duties and obligations, we have limited ability to control the amount or timing of resources that they devote to our programs or manage the risks associated with their activities on our behalf. We are responsible to regulatory authorities for ensuring that each of our product candidates is manufactured using good manufacturing practices and studies are conducted in accordance with the development plans and trial protocols, and any failure by our CMOs and CROs to do so may adversely affect our ability to obtain regulatory approvals, subject us to penalties, or harm our credibility with regulators. The FDA-CVM also requires us and our CMOs and CROs to comply with regulations and standards, commonly referred to as good manufacturing practices, or GMPs, good clinical practices, or GCPs, and good laboratory practices, or GLPs, collectively called GXPs, for conducting, monitoring, recording and reporting the results of our manufacturing and studies to ensure that the data and results are scientifically credible and accurate.

Our agreements with our CMOs and CROs may allow termination by the CMOs and CROs in certain circumstances with little or no advance notice to us. These agreements generally will require our CMOs and CROs to reasonably cooperate with us at our expense for an orderly winding down of the CMOs' and CROs' services under the agreements. If the CMOs and CROs conducting our manufacturing and studies do not comply with their contractual duties or obligations to us, or if they experience work stoppages, do not meet expected deadlines, terminate their agreements with us or need to be replaced, or if the quality or accuracy of the data they obtain is compromised due to the failure to adhere to our development protocols or GXPs or for any other reason, we may need to secure new arrangements with alternative CMOs and CROs, which could be difficult and costly. In such event, our studies also may need to be extended, delayed or terminated as a result, or may need to be repeated. If any of the foregoing were to occur, regulatory approval and commercialization of our product candidates may be delayed, and we may be required to expend substantial additional resources.

The failure of any CMO and CRO to perform adequately or the termination of any arrangements with any of them may adversely affect our business.

We rely on third-party manufacturers to produce our product candidates. If we experience problems with any of these suppliers, the manufacturing of our product candidates or products could be delayed.

We do not have the capability to manufacture our product candidates and do not intend to develop that capability. As a result, we rely on CMOs to produce our product candidates. We expect to enter into contracts with CMOs for the commercial scale production of the products we intend to commercialize. Reliance on CMOs involves risks, including:

- the inability to meet our product specifications and quality requirements consistently;
- inability to access production facilities on a timely basis;
- inability or delay in increasing manufacturing capacity;
- manufacturing and product quality issues related to the scale-up of manufacturing;
- costs and validation of new equipment and facilities required for commercial level activity;
- a failure to satisfy any applicable FDA-CVM cGMP requirements on a consistent basis;
- the inability to negotiate manufacturing agreements with third parties under commercially reasonable terms;
- termination or nonrenewal of manufacturing agreements with third parties in a manner or at a time that is costly or damaging to us;
- the reliance on a single source of supply which, if unavailable, would delay our ability to complete the development and testing and commercialization of our products;
- the lack of qualified backup suppliers for supplies that are currently purchased from a single source supplier;
- operations of our CMOs or suppliers could be disrupted by conditions unrelated to our business or operations, including the bankruptcy of the CMO or supplier;
- carrier disruptions or increased costs that are beyond our control; and
- the failure to deliver products under specified storage conditions and in a timely manner.

Any of these risks could cause the delay of validation studies, clinical trials, regulatory submissions, the receipt of any required approvals or the commercialization of our products, cause us to incur higher costs and prevent us from commercializing our product candidates successfully. Manufacturing of our product candidates and any approved products subject to cGMP could be disrupted or halted if our CMOs do not comply with cGMP, even if the compliance failure does not relate to our product candidates or approved products. Furthermore, if our CMOs fail to deliver the required commercial quantities of finished product on a timely basis and at commercially reasonable prices and we are unable to find one or more replacement manufacturers capable of production at a substantially equivalent cost, in substantially equivalent volumes and quality and on a timely basis, we would likely be unable to meet demand for our products and could lose potential revenue. It may take several years to establish an alternative source of supply for our product candidates and to have any such new source approved by the FDA-CVM in the event that such approval is required.

Even if our product candidates obtain regulatory approval, they may never achieve market acceptance or commercial success.

Even if we obtain FDA-CVM, USDA-CVB or other regulatory approvals, our product candidates may not achieve market acceptance among veterinarians and pet owners and may not be commercially successful. Market acceptance of any of our product candidates for which we receive approval depends on a number of factors, including:

- the safety of our products as demonstrated in our target animal studies;
- the indications for which our products are approved;
- the acceptance by veterinarians and pet owners of the product as a safe and effective treatment;
- the proper training and administration or use of our products by veterinarians;
- the potential and perceived advantages of our product candidates over alternative treatments or diagnostics, including products approved for use by humans that are used off label;
- the cost of treatment in relation to alternative treatments and willingness to pay for our products, if approved, on the part of veterinarians and pet owners;
- the willingness of pet owners to pay for our treatments, relative to other discretionary items, especially during economically challenging times;
- the relative convenience and ease of administration;
- the prevalence and severity of adverse side effects; and
- the effectiveness of our sales and marketing efforts.

If our approved products fail to achieve market acceptance or commercial success, our business could fail and you could lose your entire investment.

Pharmaceuticals for companion animals, like human pharmaceuticals, are subject to unanticipated post-approval safety or efficacy concerns, which may harm our business and reputation.

The success of our commercialization efforts will depend upon the perceived safety and effectiveness of pharmaceuticals for companion animals, in general, and of our products, in particular. Unanticipated safety or efficacy concerns can arise with respect to approved therapeutics after they enter into commerce, which may result in product recalls or withdrawals or suspension of sales, as well as product liability and other claims. It is also possible that the occurrence of significant adverse side effects in approved human compounds upon which our drug product candidates are based could impact our products. Any safety or efficacy concerns, or recalls, withdrawals or suspensions of sales of our products or other pet therapeutics, or of their human equivalents, could harm our reputation, in particular, or pet therapeutics, generally, and materially, adversely affect our business and prospects or the potential growth of the pet therapeutics industry, regardless of whether such concerns or actions are justified.

Changes in the distribution channels for companion animal products could negatively impact our market share, margins and distribution of our products.

In most markets, pet owners typically purchase their animal health products directly from veterinarians. In recent years, pet owners have increasingly been afforded the option to purchase animal health products from sources other than veterinarians, such as Internet-based retailers, “big-box” retail stores or other over-the-counter distribution channels. Pet owners also could decrease their reliance on, and visits to, veterinarians as they rely more on Internet-based animal health information. Since we intend to market our products through the veterinarian distribution channel, any decrease in visits to veterinarians by pet owners could reduce our market share for such products and materially adversely affect our operating results and financial condition. In addition, pet owners may substitute human health products for animal health products if human health products are deemed to be lower-cost alternatives.

We do not currently carry liability insurance; however, as we continue our development and commercialization activities, future federal and state legislation may result in increased exposure to product liability claims, which could result in substantial losses to us.

We do not currently carry any product liability insurance. Under existing federal and state laws, companion animals are generally considered to be the personal property of their owners and, as such, pet owners' recovery for product liability claims involving their companion animals may be limited to the replacement value of the animals. Pet owners and their advocates, however, have filed lawsuits from time to time seeking non-economic damages such as pain and suffering and emotional distress for harm to their companion animals based on theories applicable to personal injuries to humans. If new legislation is passed to allow recovery for such non-economic damages, or if precedents are set allowing for such recovery, we could be exposed to increased product liability claims that could result in substantial losses to us if successful. We do not currently have product liability insurance and we may not be able to obtain or maintain this type of insurance in the future.

If we are unable to establish sales capabilities on our own or through third parties, we may not be able to market and sell our existing or future product candidates, if approved, or generate product revenue.

We do not currently have a fully staffed sales organization. We intend to commercialize any product candidate for which we received regulatory approval in the United States with a direct sales force and through third-party distributors. To achieve this, we will be required to build a direct sales organization and to establish relationships with distributors of veterinary products. We also will have to build our marketing, sales, managerial and other non-technical capabilities and make arrangements with third parties for distribution and to perform certain of these other services, and we may not be successful in doing so. Building an internal sales organization is time consuming and expensive and will significantly increase our compensation expense. We may be unable to secure third-party distribution contracts with distributors on favorable terms or at all. We have no prior experience in the marketing, sale and distribution of pharmaceuticals or diagnostic products for companion animals and there are significant risks involved in building and managing a sales organization, including our ability to hire, retain and motivate qualified individuals, generate sufficient sales leads, provide adequate training to sales and marketing personnel, and effectively oversee a geographically dispersed sales and marketing team. If we are unable to build an effective sales organization and/or if we are unable to secure relationships with third-party distributors for our product candidates, we will not be able to successfully commercialize any product for which we receive marketing approval, our future product revenue will suffer and we would incur significant additional losses.

In jurisdictions outside of the United States we intend to utilize companies with an established commercial presence to market our products in those jurisdictions, but we may be unable to enter into such arrangements on acceptable terms, it at all.

If we fail to attract and keep senior management and key scientific personnel, we may be unable to successfully develop any of our existing or future product candidates, conduct our in-licensing and development efforts and commercialize any of our existing or future drug candidates.

Our success depends in part on our continued ability to attract, retain and motivate highly qualified management and scientific personnel. We are highly dependent upon our senior management, particularly Shameze Rampertab, CPA, CA, our interim Chief Executive Officer and Chief Financial Officer, Stephanie Morley, DVM, our President and Chief Operations Officer, and Bruk Herbst, our Chief Commercial Officer. The loss of services of any of these individuals could delay or prevent the successful development of our existing or future product pipeline, completion of our planned development efforts or the commercialization of our product candidates. Although we have entered into employment agreements with Dr. Morley and Mr. Herbst for one-year terms (automatically extending for one-year terms thereafter) there can be no assurance that either of Dr. Morley or Mr. Herbst will extend their terms of service. We have also entered into an employment agreement Mr. Rampertab without a fixed term of service.

Consolidation of our customers could negatively affect the pricing of our products.

Veterinarians will be our primary customers for any approved products. In recent years, there has been a trend towards the consolidation of veterinary clinics and animal hospitals. If this trend continues, these large clinics and hospitals could attempt to leverage their buying power to obtain favorable pricing from us and other companion animal pharmaceutical and diagnostic products companies. Any resulting downward pressure on the prices of any of our approved products could have a material adverse effect on our results of operations and financial condition.

We will need to increase the size of our organization and may not successfully manage our growth.

We will need to significantly expand our organization and systems to support our future expected growth. If we fail to manage our growth effectively, we will not be successful, and our business could fail.

Our research and development rely on testing in animals, which is controversial and may become subject to bans or additional regulations.

We must test our product candidates in target animals to obtain marketing approval. Although our animal testing will be subject to GLP and GCP requirements, as applicable, animal testing in the human pharmaceutical industry and in other industries has been the subject of controversy and adverse publicity. Some organizations and individuals have sought to ban animal testing or encourage the adoption of additional regulations applicable to animal testing. To the extent that such bans or regulations are imposed, our research and development activities, and by extension our operating results and financial condition, could be materially adversely affected. In addition, negative publicity about animal practices by us or in our industry could harm our reputation among potential customers for our products.

Because our directors may serve as directors or officers of other companies, they may have a conflict of interest in making decisions for our business.

Our directors may serve as directors or officers of other companies or have significant shareholdings in other veterinary pharmaceutical or diagnostic products companies and, to the extent that such other companies may participate in ventures in which we may participate, our directors may have a conflict of interest in negotiating and concluding terms respecting the extent of such participation. In the event that such a conflict of interest arises at a meeting of our directors, we expect that the director who has such a conflict will declare his conflict, abstain from voting for or against the approval of such participation or such terms and, if deemed necessary or advisable, recuse himself from any discussion concerning the matters in question. In some circumstances, a director may be unable to manage such conflicts and may therefore need to resign. Our directors are required to act honestly, in good faith and in our best interests. In determining whether or not we will participate in a particular business opportunity or enter into a particular business arrangement, we expect that the directors and officers will be guided by their fiduciary duties and take into account such matters as they deem relevant, including considering the degree of risk to which we may be exposed and our financial position at that time.

W*e may seek to raise additional funds in the future through debt financing which may impose operational restrictions on our business and may result in dilution to existing or future holders of our common shares.*

We expect that we will need to raise additional capital in the future to help fund our business operations. Debt financing, if available, may require restrictive covenants, which may limit our operating flexibility and may restrict or prohibit us from:

- paying dividends and/or making certain distributions, investments and other restricted payments;
- incurring additional indebtedness or issuing certain preferred shares;
- selling some or all of our assets;
- entering into transactions with affiliates;
- creating certain liens or encumbrances;
- merging, consolidating, selling or otherwise disposing of all or substantially all of our assets; and
- designating our subsidiaries as unrestricted subsidiaries.

Debt financing may also involve debt instruments that are convertible into or exercisable for our common shares. The conversion of the debt to equity financing may dilute the equity position of our existing shareholders.

We may not be able to obtain or maintain sufficient insurance on commercially reasonable terms or with adequate coverage against potential liabilities in order to protect ourselves against product liability claims.

Our business exposes us to potential product liability risks that are inherent in the testing, manufacturing and marketing of veterinary therapeutic and diagnostic products. We may become subject to product liability claims resulting from the use of our product candidates. We do not currently have product liability insurance and we may not be able to obtain or maintain this type of insurance for any future trials or product candidates. In addition, product liability insurance is becoming increasingly expensive. Being unable to obtain or maintain product liability insurance in the future on acceptable terms or with adequate coverage against potential liabilities could have a material adverse effect on our business.

We may acquire other businesses or form joint ventures that may be unsuccessful and could adversely dilute your ownership of our company.

As part of our business strategy, we may pursue in-licenses or acquisitions of other complementary assets and businesses and may also pursue strategic alliances. We have no experience in acquiring other assets or businesses and have limited experience in forming such alliances. We may not be able to successfully integrate any acquisitions into our existing business, and we could assume unknown or contingent liabilities or become subject to possible stockholder claims in connection with any related-party or third-party acquisitions or other transactions. We also could experience adverse effects on our reported results of operations from acquisition-related charges, amortization of acquired technology and other intangibles and impairment charges relating to write-offs of goodwill and other intangible assets from time to time following an acquisition. Integration of an acquired company requires management resources that otherwise would be available for ongoing development of our existing business. We may not realize the anticipated benefits of any acquisition, technology license or strategic alliance.

To finance future acquisitions, we may choose to issue shares of our common stock as consideration, which would dilute your ownership interest in us. Alternatively, it may be necessary for us to raise additional funds through public or private financings. Additional funds may not be available on terms that are favorable to us and, in the case of equity financings, may result in dilution to our stockholders.

Risks Related to Government Regulation

Various government regulations could limit or delay our ability to develop and commercialize our products or otherwise negatively impact our business.

In the U.S., the manufacture and sale of certain diagnostic products are regulated by agencies such as the USDA, the FDA or the EPA. While our point-of-care Bulk Acoustic Wave sensor-based diagnostic platform and Raman spectroscopy-based diagnostic platform and our reference lab-based diagnostic test for canine cancer do not require approval by the USDA-CVB prior to sale in the U.S., these diagnostic solutions will be subject to post-marketing oversight by the FDA-CVM. In addition, delays in obtaining regulatory approvals for new products or product upgrades could have a negative impact on our growth and profitability.

The manufacture and sale of our products, as well as our research and development processes, are subject to similar and potentially more stringent laws in foreign countries.

We are also subject to a variety of federal, state, local and international laws and regulations that govern, among other things, the importation and exportation of products; our business practices in the U.S. and abroad, such as anti-corruption and anti-competition laws; and immigration and travel restrictions. These legal and regulatory requirements differ among jurisdictions around the world and are rapidly changing and increasingly complex. The costs associated with compliance with these legal and regulatory requirements are significant and likely to increase in the future.

Any failure to comply with applicable legal and regulatory requirements could result in fines, penalties and sanctions; product recalls; suspensions or discontinuations of, or limitations or restrictions on, our ability to design, manufacture, market, import, export or sell our products; and damage to our reputation.

Even if we receive regulatory approval for a product candidate, we will be subject to ongoing FDA-CVM or USDA-CVB obligations and continued regulatory oversight, which may result in significant additional expense. Additionally, any product candidates, if approved, will be subject to labeling and manufacturing requirements and could be subject to other restrictions. Failure to comply with these regulatory requirements or the occurrence of unanticipated problems with our products could result in significant penalties.

If the FDA-CVM or USDA-CVB approves any of our existing or future therapeutic product candidates, the manufacturing processes, labeling, packaging, distribution, adverse event reporting, storage, advertising, promotion and recordkeeping for the product will be subject to extensive and ongoing regulatory requirements. These requirements include submissions of safety and other post-marketing information and reports, establishment registration, and product listing, as well as continued compliance with GMP, GLP and GCP for any studies that we conduct post-approval. Later discovery of previously unknown problems with a product, including adverse events of unanticipated severity or frequency, or with our third-party manufacturers or manufacturing processes, or failure to comply with regulatory requirements, may result in, among other things:

- restrictions on the marketing or manufacturing of the product, withdrawal of the product from the market, or voluntary product recalls;
- fines, warning letters or holds on target animal studies;
- refusal by the FDA-CVM or USDA-CVB to approve pending applications or supplements to approved applications filed by us or our strategic collaborators, or suspension or revocation of product license approvals;
- product seizure or detention, or refusal to permit the import or export of products; and
- injunctions or the imposition of civil or criminal penalties.

The FDA-CVM's or USDA-CVB's policies may change and additional government regulations may be enacted that could prevent, limit or delay regulatory approval of our product candidates. We cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative action in the United States or abroad. If we are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we are not able to maintain regulatory compliance, we may lose any marketing approval that we may have obtained and we may not achieve or sustain profitability, which would adversely affect our business.

Our ability to market our drug candidates in the United States, if approved, will be limited to use for the treatment of the indications for which they are approved, and if we want to expand the indications for which we may market our product candidates, we will need to obtain additional FDA-CVM approvals, which may not be granted.

We expect to seek FDA-CVM approval in the United States for our drug product candidates. If these drug product candidates are approved, the FDA-CVM will restrict our ability to market or advertise them for the treatment of indications other than the indications for which they are approved, which could limit their adoption by veterinarian and pet owners. We may attempt to develop, promote and commercialize new treatment indications and protocols for our drug product candidates in the future, but we cannot predict when or if we will receive the approvals required to do so. In addition, we would be required to conduct additional target animal studies to support our applications, which would utilize additional resources and may produce results that do not result in FDA-CVM approvals. If we do not obtain additional FDA-CVM approvals, our ability to expand our business in the United States will be limited.

If approved, any of our existing or future therapeutic products may cause or contribute to adverse medical events that we are required to report to regulatory authorities and, if we fail to do so, we could be subject to sanctions that would materially harm our business.

If we are successful in commercializing any of our existing or future therapeutic product candidates, we will be required to report adverse medical events if those products may have caused or contributed to those adverse events. The timing of our obligation to report would be triggered by the date we become aware of the adverse event as well as the nature of the event. We may fail to report adverse events we become aware of within the prescribed timeframe. We may also fail to appreciate that we have become aware of a reportable adverse event, especially if it is not reported to us as an adverse event or if it is an adverse event that is unexpected or removed in time from the use of our products. If we fail to comply with our reporting obligations, the regulatory authorities could take action including criminal prosecution, seizure of our products or delay in approval or clearance of future products.

Legislative or regulatory reforms with respect to veterinary pharmaceuticals or health care solutions may make it more difficult and costly for us to obtain regulatory clearance or approval of any of our existing or future product candidates and to produce, market, and distribute our products after clearance or approval is obtained.

From time to time, legislation is drafted and introduced in the U.S. Congress that could significantly change the statutory provisions governing the testing, regulatory clearance or approval, manufacture, and marketing of regulated products. In addition, FDA-CVM and USDA-CVB regulations and guidance are often revised or reinterpreted by the FDA-CVM and USDA-CVB in ways that may significantly affect our business and our products. Similar changes in laws or regulations can occur in other countries. Any new regulations or revisions or reinterpretations of existing regulations in the United States may impose additional costs or lengthen review times of any of our existing or future product candidates. We cannot determine what effect changes in regulations, statutes, legal interpretation or policies, when and if promulgated, enacted or adopted may have on our business in the future. Such changes could, among other things, require:

- changes to manufacturing methods;
- recall, replacement or discontinuance of certain products; and
- additional record-keeping.

Each of these would likely entail substantial time and cost and could materially harm our financial results. In addition, delays in receipt of or failure to receive regulatory clearances or approvals for any future products would harm our business, financial condition, and results of operations.

Risks Related to Intellectual Property

Our ability to obtain intellectual property protection for our product candidates is limited.

Our diagnostic technologies are dependent on intellectual property developed by our strategic partners and licensed to us. We do not own the intellectual property rights that underlie these technology licenses. Our rights to use the technology we license are subject to the negotiation of, continuation of and compliance with the terms of our licenses. However, we have filed four U.S. patent applications and two Patent Cooperation Treaty (PCT) applications for U.S. and international protection of our diagnostic tests. These applications cover tests developed for our ZM-017, ZM-022 and ZM-020 technology platforms. Even if such patents are issued, we do not expect that all of the patents will provide significant protection for our intellectual property.

Some of our products may or may not be covered by a patent. Further if an application is filed, it is not certain that a patent will be granted or if granted whether it will be held to be valid. All of which may impact our market share and ability to prevent others (competitor third parties) from making, selling, or using our products.

We intend to rely upon a combination of regulatory exclusivity periods, patents, trade secret protection, confidentiality agreements, and license agreements to protect the intellectual property related to our current product candidates and our development programs. We may not be successful in protecting our intellectual property rights, including our unpatented proprietary know-how and trade secrets, or in avoiding claims that we infringed on the intellectual property rights of others. In addition to relying on patent and trademark rights, we rely on unpatented proprietary know-how and trade secrets, and employ various methods, including confidentiality agreements with employees and consultants, customers and suppliers to protect our know-how and trade secrets. However, these methods and our patents and trademarks may not afford complete protection and there can be no assurance that others will not independently develop the know-how and trade secrets or develop better production methods than us. Further, we may not be able to deter current and former employees, contractors and other parties from breaching confidentiality agreements and misappropriating proprietary information and it is possible that third parties may copy or otherwise obtain and use our information and proprietary technology without authorization or otherwise infringe on our intellectual property rights. In the future, we may also rely on litigation to enforce our intellectual property rights and contractual rights, and, if not successful, we may not be able to protect the value of our intellectual property. Any litigation could be protracted and costly and could have a material adverse effect on our business and results of operations regardless of its outcome.

If we are unable to obtain trademark registrations for our products our business could be adversely affected.

We have pending trademark applications for our company name and composite marks comprised of our company name, logo and/or slogan in the U.S., Canada, European Union, the United Kingdom, and Mexico. In addition, we have approved pending trademark applications for our "Voice of the Vet" mark in the U.S. and Canada. We have secured two registrations in the European Union for our company name, company name and logo, and for the mark "Voice of the Vet powered by Zomedica" (and Design). We also have secured registrations in Brazil for our company name and logo. While we cannot make assurances that any pending trademark applications will mature to registration, most of these applications are now poised to mature to registration.

We have also filed for protection of several product names in the U.S., Canada and European Union. Currently, no significant hurdles have been encountered in the registration process. Moreover, any name we propose to use with our product candidates in the United States must be approved by the FDA-CVM or the USDA-CVB regardless of whether we have registered it, or applied to register it, as a trademark. The FDA-CVM typically conducts a review of proposed product names, including an evaluation of potential for confusion with other product names. If the FDA-CVM or the USDA-CVB object to any of our proposed proprietary product names, we may be required to expend significant additional resources in an effort to identify a suitable substitute name that would qualify under applicable trademark laws, not infringe the existing rights of third parties and be acceptable to the FDA-CVM and the USDA-CVB.

Third parties may have intellectual property rights, which may require us to obtain a license or other applicable rights to make, sell or use our products. If such rights are not granted or obtained, I could have a material adverse effect on our business, financial condition and results of operations.

Our success depends in part on our ability to obtain, or license from third parties, patents, trademarks, trade secrets and similar proprietary rights without infringing on the proprietary rights of third parties. Although we believe our intellectual property rights are sufficient to allow us to conduct our business without incurring liability to third parties, our products may infringe on the intellectual property rights of such persons. Furthermore, no assurance can be given that we will not be subject to claims asserting the infringement of the intellectual property rights of third parties seeking damages, the payment of royalties or licensing fees and/or injunctions against the sale of our products. Any such litigation could be protracted and costly and could have a material adverse effect on our business, financial condition and results of operations.

Our diagnostic technologies depend on certain technologies that are licensed to us. We do not control these technologies and any loss of our rights to them could prevent us from marketing our diagnostic product candidates.

Our diagnostic technologies are dependent on intellectual property developed by our strategic partners and licensed to us. We do not own the intellectual property rights that underlie these licenses. Our rights to use the technology we license are subject to the negotiation of, continuation of and compliance with the terms of our licenses. We do not control the prosecution, maintenance or filing of the patents and other intellectual property licensed to us, or the enforcement of these intellectual property rights against third parties. The patents and patent applications underlying our licenses were not written by us or our attorneys, and we do not have control over the drafting and prosecution of such rights. Our partners might not have given the same attention to the drafting and prosecution of patents and patent applications as we would have if we had been the owners of the intellectual property rights and had control over such drafting and prosecution. We cannot be certain that drafting and/or prosecution of the licensed patents and patent applications has been or will be conducted in compliance with applicable laws and regulations or will result in valid and enforceable patents and other intellectual property rights.

Our intellectual property agreements with third parties may be subject to disagreements over contract interpretation, which could narrow the scope of our rights to the relevant intellectual property or technology or increase our financial or other obligations to our licensors.

Certain provisions in our intellectual property agreements may be susceptible to multiple interpretations. The resolution of any contract interpretation disagreement that may arise could affect the scope of our rights to the relevant intellectual property or technology, or affect financial or other obligations under the relevant agreement, either of which could have a material adverse effect on our business, financial condition, results of operations and prospects.

In addition, while it is our policy to require our employees and contractors who may be involved in the conception or development of intellectual property to execute agreements assigning such intellectual property to us, we may be unsuccessful in executing such an agreement with each party who in fact conceives or develops intellectual property that we regard as our own. Our assignment agreements may not be self-executing or may be breached, and we may be forced to bring claims against third parties, or defend claims they may bring against us, to determine the ownership of what we regard as our intellectual property.

We may be subject to claims that our employees, consultants or independent contractors have wrongfully used or disclosed confidential information of third parties.

We have received confidential and proprietary information from third parties. In addition, we employ individuals who were previously employed at other pharmaceutical or animal health companies. We may be subject to claims that we or our employees, consultants or independent contractors have inadvertently or otherwise improperly used or disclosed confidential information of these third parties or our employees' former employers. Litigation may be necessary to defend against any such claims. Even if we are successful in defending against any such claims, such litigation could result in substantial cost and be a distraction to our management and employees.

Risks Related to Our Preferred Shares

We will be obligated to pay a significant portion of our net sales to the holders of our Series 1 Preferred Shares. This payment obligation will materially and adversely affect our liquidity and capital resources, may adversely impact our ability to raise additional capital, and could adversely affect the trading price of our common shares.

We are obligated to make annual payments to the holders of our Series 1 Preferred Shares in an amount equal to nine percent of the net sales (as defined in the Series 1 Preferred Shares), if any, of our company and our affiliates (the "Net Sales Payments") until such time as the holders have received total Net Sales Payments equal to nine times the aggregate stated value of the outstanding Series 1 Preferred Shares. Such payments will materially and adversely affect our liquidity and capital resources which could result in a shortage of capital necessary to fund our operations or to take advantage of business opportunities as they arise. Our obligation to make these payments may make it more difficult for us to raise additional capital on terms acceptable to us, or at all. This payment obligation also may adversely affect investor perceptions of our company which could adversely affect the trading price of our common shares.

In the event of a sale of our company, holders of our Series 1 Preferred Shares will be entitled to a substantial premium on the purchase price they paid for their Series 1 Preferred Shares, which will reduce the sale proceeds to be received by holders of our common shares.

In the event that our company is the subject of a "fundamental transaction" (defined in the Series 1 Preferred Shares to include an amalgamation, merger or other business combination transaction involving our company in which our shareholders do not have the right to cast more than 50% of the votes that may be cast for the election of directors, or a sale, lease or other disposition of the properties and/or assets of our company as an entirety or substantially as an entirety to a third party) the holders of the Series 1 Preferred Shares will have the right, in preference to the holders of our common shares, to receive a portion of the aggregate consideration paid in the fundamental transaction that will represent a substantial premium on the purchase price they paid for their Series 1 Preferred Shares. Such premium will reduce the proceeds of any such fundamental transaction that would be received by holders of our common shares.

In the event of the liquidation, dissolution or winding up of our company, holders of the Series 1 Preferred Shares will have a liquidation preference over holders of our common shares and if the net assets of our company available for distribution to holders of our equity securities is not sufficient to pay this liquidation preference in full, holders of our common shares would receive no liquidating distribution in respect of their common shares.

In the event of the liquidation, dissolution or winding up of our company, holders of the Series 1 Preferred Shares will have a liquidation preference equal to the stated value of the Series 1 Preferred Shares less the Net Sales Returns (as defined in the Series 1 Preferred Shares) paid on the Series 1 Preferred Shares before holders of our common shares would be entitled to any proceeds of such liquidation, dissolution or winding up. If the net assets of our company available for distribution to holders of our equity securities is not sufficient to pay this liquidation preference in full, holders of our common shares would receive no liquidating distribution in respect of their common shares.

Our Series 1 Preferred Shares will be reclassified as a liability on our consolidated balance sheet once we begin to recognize revenues which may cause us to fail to meet the NYSE American's continued listing requirements.

Because we are obligated to make annual payments to the holders of our Series 1 Preferred Shares in an amount equal to nine percent of the Net Sales (as defined in the Series 1 Preferred Shares), if any, of our company and our affiliates, once we begin to recognize revenues from our commercial activities, we will be required under United States general accounting principles to reclassify the Series 1 Preferred Shares as a liability on our consolidated balance sheet. The reclassification will significantly increase our total liabilities and significantly reduce our shareholders' equity. Under the NYSE American's continued listing requirements, we are required to maintain shareholders' equity of at least $4.0 million, which will increase to $6.0 million after December 31, 2020. As a result of the reclassification, we may fail to meet this continued listing requirement. If we are unable to satisfy the NYSE American's continued listing requirements, our common shares could be delisted from the NYSE American which could adversely affect the liquidity and market price of our common shares.

Risks Related to Our Common Shares

We believe that we will be a "passive foreign investment company," or PFIC for the current taxable year, which could subject certain U.S. shareholders to materially adverse U.S. federal income tax consequences.

We believe we were classified as a PFIC during our taxable year ended 2018, and based on current business plans and financial expectations, we expect to be a PFIC for the current and future taxable years. If we are a PFIC for any year in which you hold shares and you are a U.S. Holder (as defined below, in "Material United States Federal Income Tax Considerations"), unless you make a timely and effective Qualified Electing Fund election, or QEF Election or a mark-to-market election, or Mark-to-Market Election with respect to our common shares, you will not be eligible for the reduced tax rates associated with "qualified dividend income" with respect to distributions made to you or long-term capital gain upon a disposition of your common shares. Instead, all such distributions and gain will be taxable to you at the higher rates for ordinary income. In addition, a portion of any gain and distribution may be allocated to prior years during which you have owned our common shares and subjected to tax at the highest tax rate applicable to ordinary income in each such year. You would also be required to pay an interest charge on that portion of such gain or distribution.

If you are a U.S. Holder and make a timely and effective QEF Election, you generally must report on a current basis your share of our net capital gain and ordinary earnings for any year in which we are a PFIC, whether or not we distribute any amount to you, thus giving rise to so-called "phantom income" and to a potential tax liability. At this time, we intend to provide U.S. Holders with information required annually in order to allow such holders to make effective QEF Elections, but we cannot guarantee that we will be able to do so.

If you are a U.S. Holder and make a timely and effective Mark-to-Market Election, you generally must include as ordinary income each year the excess of the fair market value of your common shares over your tax basis therein, thus also possibly giving rise to phantom income and a potential tax liability. Ordinary loss generally is recognized only to the extent of net mark-to-market gains previously included in income.

Each U.S. shareholder should consult its own tax advisors regarding the PFIC rules and the U.S. federal income tax consequences of the acquisition, ownership, and disposition of our common shares

If the Internal Revenue Service determines that we are not a PFIC and you previously paid taxes pursuant to a QEF Election or a Mark-to-Market Election, you may pay more taxes than you legally owe.

If the Internal Revenue Service, or the IRS, makes a determination that we are not a PFIC and you previously paid taxes pursuant to a QEF Election or Mark-to-Market Election, then you may have paid more taxes than you legally owed due to such election. If you do not, or are unable to, file a refund claim before the expiration of the applicable statute of limitations, you will not be able to claim a refund for those taxes.

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

Although we have research coverage by securities and industry analysts, if coverage is not maintained, the market price for our stock may be adversely affected. Our stock price also may decline if any analyst who covers us issues an adverse or erroneous opinion regarding us, our business model, our intellectual property or our stock performance, or if our target animal studies and operating results fail to meet analysts' expectations. If one or more analysts cease coverage of us or fail to regularly publish reports on us, we could lose visibility in the financial markets, which could cause our stock price or trading volume to decline and possibly adversely affect our ability to engage in future financings.

We expect that the price of our common shares will fluctuate substantially.

You should consider an investment in our common shares risky and invest only if you can withstand a significant loss and wide fluctuations in the market value of your investment. The price of our common shares that will prevail in the market after the sale of our common shares by a selling shareholder may be higher or lower than the price you have paid. Numerous factors, including many over which we have no control, may have a significant impact on the market price of our common shares. These risks include those described or referred to in this "Risk Factors" section and elsewhere in this report as well as, among other things:

- any delays in, or suspension or failure of, our existing and future studies;
- announcements of regulatory approval or disapproval of any of our existing or future product candidates or of regulatory actions affecting us or our industry;
- delays in the commercialization of our existing or future product candidates;
- manufacturing and supply issues related to our development programs and commercialization of our existing or future product candidates;
- quarterly variations in our results of operations or those of our competitors;
- changes in our earnings estimates or recommendations by securities analysts or adverse publicity about us or our product candidates;
- announcements by us or our competitors of new product candidates, significant contracts, commercial relationships, acquisitions or capital commitments;
- announcements relating to future development or license agreements including termination of such agreements;
- adverse developments with respect to our intellectual property rights or those of our principal collaborators;
- commencement of litigation involving us or our competitors;
- any major changes in our board of directors or management;
- new legislation in the United States relating to the prescription, sale, distribution or pricing of pet pharmaceuticals or diagnostic products;
- product liability claims, other litigation or public concern about the safety of our product candidates or future products;
- market conditions in the animal health industry, in general, or in the pet therapeutics sector, in particular, including performance of our competitors; and
- general economic conditions in the United States and abroad.

In addition, the stock market, in general, or the market for stocks in our industry, in particular, may experience broad market fluctuations, which may adversely affect the market price or liquidity of our common shares. Any sudden decline in the market price of our common shares could trigger securities class-action lawsuits against us. If any of our shareholders were to bring such a lawsuit against us, we could incur substantial costs defending the lawsuit and the time and attention of our management would be diverted from our business and operations. We also could be subject to damages claims if we are found to be at fault in connection with a decline in our stock price.

Our management owns a significant percentage of our common shares and will be able to exert significant control over matters subject to shareholder approval.

Based on shares outstanding as of February 26, 2019, our executive officers and directors and their respective affiliates beneficially own 19,135,956 or 14.84% of our voting shares. These shareholders will have the ability to influence us through this ownership position and may be able to determine all matters requiring shareholder approval. For example, these shareholders may be able to control elections of directors, amendments of our organizational documents, or approvals of any merger, sale of assets or other major corporate transaction. This may prevent or discourage unsolicited acquisition proposals or offers for our common shares that you may feel are in your best interest as one of our shareholders.

We are an "emerging growth company," as defined under the JOBS Act and if we take advantage of reduced disclosure requirements applicable to "emerging growth companies," our common shares could be less attractive to investors.

We are an "emerging growth company," as defined in the Jumpstart Our Business Startups Act of 2012, as amended, or the JOBS Act, and, for as long as we continue to be an "emerging growth company," we may choose to take advantage of certain exemptions from various reporting requirements applicable to other public companies but not to "emerging growth companies," including, but not limited to, not being required to comply with the auditor attestation requirements of Section 404(b) of the Sarbanes-Oxley Act of 2002, as amended, or SOX, reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements, and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and shareholder approval of any golden parachute payments not previously approved. We could be an "emerging growth company" for up to five years, or until the earliest of (i) the last day of the first fiscal year in which our annual gross revenues exceed $1.07 billion, (ii) the date that we become a "large accelerated filer" as defined in Rule 12b-2 under the Exchange Act, which would occur if the market value of our common shares that is held by non-affiliates exceeds $700 million as of the last business day of our most recently completed second fiscal quarter, or (iii) the date on which we have issued more than $1 billion in non-convertible debt during the preceding three year period. We cannot predict if investors will find our common shares less attractive if we choose to continue to rely on these exemptions. If some investors find our common shares less attractive as a result of any choices to reduce future disclosure, there may be a less active trading market for our common shares and our stock price may be more volatile.

In addition, Section 107 of the JOBS Act provides that an "emerging growth company" can take advantage of the extended transition period provided in Section 7(a)(2)(B) of the Securities Act for complying with new or revised accounting standards. An "emerging growth company" can delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have chosen to "opt out" of such extended transition period, however, and, as a result, we are required to comply with new or revised accounting standards on the relevant dates on which adoption of such standards is required for non-emerging growth companies. Section 107 of the JOBS Act provides that our decision to opt out of the extended transition period for complying with new or revised accounting standards is irrevocable.

Our Articles of Amalgamation (as amended) authorize us to issue an unlimited number of common shares and preferred shares without shareholder approval and we may issue additional equity securities, or engage in other transactions that could dilute your ownership interest, which may adversely affect the market price of our common shares

Our Articles of Amalgamation (as amended) authorize our Board of Directors, subject to the provisions of the ABCA, to issue an unlimited number of common shares and preferred shares without shareholder approval. Our Board of Directors may determine from time to time to raise additional capital by issuing common shares, preferred shares or other equity securities. We are not restricted from issuing additional securities, including securities that are convertible into or exchangeable for, or that represent the right to receive, common shares or preferred shares. Because our decision to issue securities in any future offering will depend on market conditions and other factors beyond our control, we cannot predict or estimate the amount, timing, or nature of any future offerings, or the prices at which such offerings may be affected. Additional equity offerings may dilute the holdings of our existing shareholders or reduce the market price of our common shares, or both. Holders of our common shares are not entitled to pre-emptive rights or other protections against dilution. New investors also may have rights, preferences and privileges that are senior to, and that adversely affect, the then-current holders of our common shares. Additionally, if we raise additional capital by making offerings of debt or preference shares, upon our liquidation, holders of our debt securities and preferred shares, and lenders with respect to other borrowings, may receive distributions of our available assets before the holders of our common shares.

We have incurred significant costs as a result of operating as a U.S. public company, and our management will continue to devote substantial time to new compliance initiatives.

As a U.S. publicly traded company, we will incur additional significant legal, accounting and other expenses that we have not incurred in the past, particularly after we are no longer an "emerging growth company" as defined under the JOBS Act. In addition, new and changing laws, regulations and standards relating to corporate governance and public disclosure, including the Dodd-Frank Wall Street Reform and Consumer Protection Act and the rules and regulations promulgated and to be promulgated thereunder, as well as under the Sarbanes-Oxley Act, the JOBS Act, and the rules and regulations of the U.S. Securities and Exchange Commission, or SEC, have created uncertainty for U.S. public companies and increased our costs and time that our board of directors and management must devote to complying with these rules and regulations. We expect these rules and regulations to increase our legal and financial compliance costs and lead to a diversion of management time and attention from revenue generating activities.

For as long as we remain an "emerging growth company" as defined in the JOBS Act, we may choose to take advantage of certain exemptions from various reporting requirements that are applicable to other U.S. public companies that are not "emerging growth companies." These exceptions provide for, but are not limited to, relief from the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act, less extensive disclosure obligations regarding executive compensation in our periodic reports and proxy statements, exemptions from the requirements to hold a nonbinding advisory vote on executive compensation and shareholder approval of any golden parachute payments not previously approved and an extended transition period for complying with new or revised accounting standards. We may take advantage of these reporting exemptions until we are no longer an "emerging growth company." We may remain an "emerging growth company" for up to five years. See "JOBS Act" in this report. To the extent we are no longer eligible to use exemptions from various reporting requirements under the JOBS Act, we may be unable to realize our anticipated cost savings from those exemptions.

Failure to maintain effective internal control over financial reporting in accordance with Section 404 of the Sarbanes-Oxley Act could have a material adverse effect on our business and share price.

As a Canadian public company, we were not required to evaluate our internal control over financial reporting in a manner that meets the standards of U.S. public companies required by Section 404 of the Sarbanes-Oxley Act, or Section 404. We were required to meet these standards in the course of preparing our financial statements as of and for the year ended December 31, 2019, and our management has reported on the effectiveness of our internal control over financial reporting for such year. Additionally, under the JOBS Act, our independent registered public accounting firm is not required to attest to the effectiveness of our internal control over financial reporting pursuant to Section 404 of the Sarbanes-Oxley Act until we are no longer an "emerging growth company." The rules governing the standards that must be met for our management to assess our internal control over financial reporting are complex and require significant documentation, testing and possible remediation.

In connection with the implementation of the necessary procedures and practices related to internal control over financial reporting, we may identify deficiencies that we may not be able to remediate in time to meet the deadline imposed by the Sarbanes-Oxley Act for compliance with the requirements of Section 404. In addition, we may encounter problems or delays in completing the implementation of any requested improvements and receiving a favorable attestation in connection with the attestation provided by our independent registered public accounting firm. We will be unable to issue securities in the public markets through the use of a shelf registration statement if we are not in compliance with Section 404. Furthermore, failure to achieve and maintain an effective internal control environment could have a material adverse effect on our business and share price and could limit our ability to report our financial results accurately and timely.

If we sell common shares in future financings, shareholders may experience immediate dilution and, as a result, our share price may decline.

We may from time to time issue additional common shares at a discount from the existing trading price of our common shares. As a result, our shareholders would experience immediate dilution upon the sale of any shares of our common shares at such discount. In addition, as opportunities present themselves, we may enter into financing or similar arrangements in the future, including the issuance of debt securities, preferred shares or common shares. If we issue common shares or securities convertible into common shares, our common shareholders would experience additional dilution and, as a result, our share price may decline.

Future sales of our common shares by our shareholders or the perception that these sales may occur could cause our stock price to decline.

As of December 31, 2019, we had 108,038,398 common shares outstanding, including a total of 3,977,714 common shares issued to our strategic partners. We are contractually obligated to register those common shares for resale or other disposition under the Securities Act. We filed a registration statement on Form S-3 to permit the sale or other disposition of these common shares along with additional common shares we have issued in two private placements during 2018. In addition, substantially all of our other outstanding common shares have been registered for resale or other disposition by the holders thereof or are otherwise freely tradable by the holders thereof.

Sales of a substantial number of our common shares by our shareholders or the perception that these sales may occur, could depress the market price of our common shares and could impair our ability to raise capital through the sale of additional equity securities, even if there is no relationship between such sales and the performance of our business.

We have never and do not, in the future, intend to pay dividends on our common shares, and your ability to achieve a return on your investment will depend on appreciation in the market price of our common shares.

We have never paid and do not expect to pay dividends on our common shares in the future. We intend to invest our future earnings, if any, to fund our growth and not to pay any cash dividends on our common shares. Since we do not intend to pay dividends, your ability to receive a return on your investment will depend on any future appreciation in the market price of our common shares. There is no assurance that our common shares will appreciate in price.

An active, liquid and orderly market for our common shares may not develop or be sustained, and you may not be able to sell your common shares.

Our common shares trade on the NYSE American exchange. We cannot assure you that an active trading market for our common shares will develop or be sustained. The lack of an active market may impair your ability to sell the common shares at the time you wish to sell them or at a price that you consider reasonable. An inactive market may also impair our ability to raise capital by selling common shares and may impair our ability to acquire other businesses, applications or technologies using our common shares as consideration, which, in turn, could materially adversely affect our business.

We are subject to the continued listing requirements of the NYSE American. If we are unable to comply with such requirements, our common shares would be delisted from the NYSE American, which would limit investors' ability to effect transactions in our common shares and subject us to additional trading restrictions.

Our common shares are currently listed on the NYSE American. In order to maintain our listing, we must maintain certain share prices, financial and share distribution targets, including maintaining a minimum amount of shareholders' equity and a minimum number of public shareholders. In addition to these objective standards, the NYSE American may delist the securities of any issuer if, in its opinion, the issuer's financial condition and/or operating results appear unsatisfactory; if it appears that the extent of public distribution or the aggregate market value of the security has become so reduced as to make continued listing on the NYSE American inadvisable; if the issuer sells or disposes of principal operating assets or ceases to be an operating company; if an issuer fails to comply with the NYSE American's listing requirements; if an issuer's common stock sells at what the NYSE American considers a "low selling price" (generally trading below $0.20 per share for an extended period of time); or if any other event occurs or any condition exists which makes continued listing on the NYSE American, in its opinion, inadvisable.

Item 1B. Unresolved Staff Comments.

Not applicable.

Item 2. Properties.

Our corporate headquarters are located in Ann Arbor, Michigan where we lease and occupy approximately 16,226 feet pursuant to a lease that expires January 31, 2025. In February 2020 we entered into an amended lease agreement whereby our original lease for approximately 26,540 square feet of space was bought out and a new lease was issued for 16, 226 square feet of office space.

Item 3. Legal Proceedings.

On November 1, 2019, Heska Corporation ("Heska") filed a complaint for damages and injunctive relief (the "Complaint") in the United States District Court for the Middle District of North Carolina, Case 1:19-cv-01108-LCB-JLW, against Qorvo US, Inc. ("Qorvo US"), Qorvo Biotechnologies, LLC ("Qorvo Biotech" and, together with Qorvo US, "Qorvo") and the Company (collectively with Qorvo, the "Defendants"). The Complaint alleges, among other things, that the Defendants improperly obtained Heska's trade secrets and confidential information and/or conspired to use improper means to misappropriate Heska's trade secrets related to an instrument and related consumable products for performing immunoassay analysis of biomarkers and other substances. The Complaint seeks compensatory and exemplary damages, as well as preliminary and permanent injunctive relief to prevent the Defendants from commercializing the Company's TRUFORMA™ diagnostic instrument. On January 21, 2020, the Defendants filed a motion seeking dismissal of the Complaint. On February 11, 2020, Heska filed its response to the Defendants' motion to dismiss to which the Defendants responded on February 25, 2020. The Company believes that the allegations in the Complaint have no merit and will not have a material adverse effect on the Company's business, results of operations or financial condition, and the Company reaffirms its intention to commence the commercialization of its TRUFORMA™ platform by the end of 2020.

Under the terms of the Development and Supply Agreement, dated November 26, 2018, by and between Qorvo Biotech and the Company (the "Qorvo Agreement"), Qorvo Biotech agreed to indemnify the Company and certain related parties against claims alleging infringement or misappropriation of third-party intellectual property rights, subject to certain limitations and exceptions. Qorvo Biotech has notified the Company that Qorvo Biotech has assumed the defense of the Complaint and will indemnify the Company for losses arising from the Complaint in accordance with the terms of the Qorvo Agreement. Qorvo Biotech has further advised the Company that it intends to mount a vigorous defense to the claims in the Complaint, and that it believes the allegations contained in the Complaint are without merit.

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

Our common shares commenced trading on the NYSE American on November 21, 2017 under the symbol "ZOM".

	High	Low
Year Ended December 31, 2019		
Fourth Quarter	$ 0.40	$ 0.30
Third Quarter	$ 0.49	$ 0.21
Second Quarter	$ 0.45	$ 0.20
First Quarter	$ 1.27	$ 0.30
Year Ended December 31, 2018		
Fourth Quarter	$ 1.97	$ 1.04
Third Quarter	$ 2.40	$ 1.81
Second Quarter	$ 2.98	$ 1.75
First Quarter	$ 2.33	$ 1.79

Common Stock Information

As of February 26, 2020, there were 128,871,732 common shares outstanding held of record by approximately 205 holders.

Equity Compensation Plan Information

Plan Category	Number of Securities to be issued upon outstanding options rights	Weighted-average exercise price outstanding options and rights	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a))
	(a)	(b)	(c)
Equity compensation plans approved by shareholders	7,040,265	$ 1.29	0
Equity compensation plans not approved by shareholders	Nil	N/A	Nil
Total	7,040,265	$ 1.29	0

Item 6. Selected Financial Data.

Not applicable.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATION

Management's Discussion and Analysis of Financial Condition and Results of Operations is intended to help the reader understand the results of operations and financial condition of the Company. The Management's Discussion and Analysis of Financial Condition and Results of Operations should be read in conjunction with our audited consolidated financial statements and notes thereto for the year ended December 31, 2019. In addition to historical information, this Annual Report on Form 10-K contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, and forward-looking information under applicable Canadian securities law requirements (collectively, "forward-looking statements") which are intended to be covered by the safe harbors created thereby. See "Cautionary Note Regarding Forward-Looking Statements" in this Annual Report on Form 10-K. Our actual results and the timing of events could differ materially from those discussed in our forward-looking statements as a result of many factors, including those set forth under the "Part I – Item 1A Risk Factors" section and elsewhere in this Annual Report on Form 10-K, as well as, in other reports and documents we file with the Securities and Exchange Commission from time to time. Except as required by law, we undertake no obligation to update any forward-looking statements to reflect events or circumstances occurring after the date of this Annual Report on Form 10-K.

Overview

We are a development stage veterinary diagnostic company focused on creating point-of-care diagnostic platforms for use by veterinarians treating companion animals (canine, feline, and equine) by focusing on the unmet needs of clinical veterinarians. We believe that our diagnostic platforms have the potential to significantly improve the diagnosis and treatment of various diseases affecting companion animals. We believe that there are significant unmet medical needs for point-of-care diagnostic tools for use on pets, and that the pet diagnostic segment of the animal health industry is likely to grow substantially as new diagnostic tools and treatments are identified, developed, and marketed specifically for companion animals.

Our strategic focus is on the final development and commercialization of our TRUFORMA™ diagnostic biosensor platform and the first five assays for the detection of adrenal and thyroid disorders in cats and dogs. The TRUFORMA™ platform uses Bulk Acoustic Wave (BAW) technology to provide a non-optical and fluorescence free detection system for use at the point-of-care. We believe that BAW technology will enable precise and repeatable test results at the point-of-care during a typical veterinary appointment.

Following the commercial launch of TRUFORMA™, we expect to continue the development of our point- of-care diagnostic platform, which is based on miniaturized laser-based Raman spectroscopy technology and is designed to detect pathogens in companion animals. We believe this platform will enable the identification of biological and biochemical signatures in complex biological samples and has the potential to achieve reference lab sensitivity/specificity to screen for a wide range of pathogens in companion animal feces, urine, respiratory, and dermatological samples in minutes without the need for extensive sample prep or the use of reagents. The diagnostic platform requires a small fecal sample preparation. Additionally, the platform has automated analysis and does not require specialized staff training. Assuming development work is successfully completed we expect the commercial launch of our fecal test to occur by 2022 and urine tests by 2023. We believe that this diagnostic platform does not require pre-market regulatory approval for use with companion animals in the United States.

We have performed initial development work on a circulating tumor cell (CTC) "liquid biopsy" platform for use in a reference lab setting as a canine cancer diagnostic. This platform is intended for use to detect canine cancers faster, more affordably and less invasively compared to existing methods, which can be expensive and cost prohibitive for pet owners. We have worked on the development of an assay for use with this platform that targets hard-to-diagnose canine cancers, such as hemangiosarcoma and osteosarcoma.

We are a development-stage company with no products approved for marketing and sale, and we have not generated any revenue. We have incurred significant net losses since our inception. We incurred net losses of $19,784,054 and $16,647,687 for the years ended December 31, 2019 and December 31, 2018, respectively. These losses have resulted principally from costs incurred in connection with investigating and developing our product candidates, research and development activities and general and administrative costs associated with our operations. As of December 31, 2019, we had an accumulated deficit of $52,057,841 and cash and cash equivalents of $510,586.

For the foreseeable future, we expect to continue to incur losses, which will increase significantly from historical levels as we expand our product development activities, commercialize them if they do not require U.S. Food and Drug Administration's Center for Veterinary Medicine, or FDA-CVM, pre-market approval, seek regulatory approvals for our product candidates where required from the FDA-CVM or the United States Department of Agriculture Center for Veterinary Biologics, or the USDA-CVB.

For further information on the regulatory, business and product pipeline, please see the "Business" section of this Annual Report on Form 10-K. For further information on the risk factors, please see the "Risk Factors" section of this Annual Report on Form 10-K.

Revenue

We do not have any products approved for sale, have not generated any revenue from product sales since our inception and do not expect to generate any revenue from the sale of products in the near future. If our development efforts result in clinical success and regulatory approval or collaboration agreements with third parties for any of our product candidates, we may generate revenue from those product candidates.

Operating Expenses

The majority of our operating expenses to date have been for the general and administrative activities related to general business activities, capital market activities and stock-based compensation, and research and development activities related to our lead product candidates.

Research and Development Expense

All costs of research and development are expensed in the period in which they are incurred. Research and development costs primarily consist of salaries and related expenses for personnel, stock-based compensation expense, fees paid to consultants, outside service providers, professional services, travel costs and materials used in clinical trials and research and development.

General and Administrative Expense

General and administrative expense consists primarily of personnel costs, including salaries, related benefits and stock-based compensation for employees, consultants and directors. General and administrative expenses also include rent and other facilities costs and professional and consulting fees for legal, accounting, tax services and other general business services.

Professional Fees

Professional fees include attorney's fees, accounting fees and consulting fees incurred in connection with product investigation and analysis, regulatory analysis, government relations, audit, securities offerings, investor relations, and general corporate and intellectual property advice.

Income Taxes

As of December 31, 2019, we had net operating loss carryforwards for federal and state income tax purposes of $16,140,344 and non-capital loss carryforwards for Canada of approximately $20,366,610, which will begin to expire in fiscal year 2035. We have evaluated the factors bearing upon the realizability of our deferred tax assets, which are comprised principally of net operating loss carryforwards and non-capital loss carryforwards. We concluded that, due to the uncertainty of realizing any tax benefits as of December 31, 2019, a valuation allowance was necessary to fully offset our deferred tax assets.

Critical Accounting Policies and Significant Judgments and Estimates

Our management's discussion and analysis of financial condition and results of operations is based on our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States, or U.S. GAAP. The preparation of our consolidated financial statements and related disclosures requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities, and revenue, costs and expenses and related disclosures during the reporting periods. On an ongoing basis, we evaluate our estimates and judgments, including those described below. We base our estimates on historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

While our significant accounting policies are more fully described in Note 3 of the notes to our consolidated financial statements appearing elsewhere in this document, we believe that the estimates and assumptions involved in the following accounting policies may have the greatest potential impact on our financial statements.

JOBS Act

The Jumpstart Our Business Startups Act, or the JOBS Act, contains provisions that, among other things, reduce certain reporting requirements for an "emerging growth company." We have irrevocably elected not to avail ourselves of the JOBS Act provision that an emerging growth company may delay adopting new or revised accounting standards until such times as those standards apply to private companies.

In addition, we are in the process of evaluating the benefits of relying on the other exemptions and reduced reporting requirements provided by the JOBS Act. Subject to certain conditions set forth in the JOBS Act, if as an "emerging growth company" we choose to rely on such exemptions, we may not be required to, among other things, (i) provide an auditor's attestation report on our system of internal controls over financial reporting pursuant to Section 404, and (ii) comply with any requirement that may be adopted by the Public Company Accounting Oversight Board regarding mandatory audit firm rotation or a supplement to the auditor's report providing additional information about the audit and the financial statements (auditor discussion and analysis). These exemptions will apply until December 31, 2022 or until we no longer meet the requirements of being an "emerging growth company," whichever is earlier.

Use of Estimates

The preparation of consolidated financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of expenses during the year. Actual results could differ from those estimates.

Areas where significant judgment is involved in making estimates are the determination of fair value of stock-based compensation; the useful lives and recoverability of property and equipment and intangible assets; deferred income taxes and forecasting future cash flows for assessing the going concern assumption.

Research and Development Costs

Research and development expenses comprise costs incurred in performing research and development activities, including salaries and benefits, safety and efficacy studies and contract manufacturing costs, contract research costs, patent procurement costs, materials and supplies and occupancy costs. Research and development activities include internal and external activities associated with research and development studies of current product candidates and advancing product candidates towards a goal of obtaining regulatory approval to manufacture and market the product candidate.

Research and development costs related to continued research and development programs are expensed as incurred in accordance with ASC topic 730.

Translation of Foreign Currencies

The functional currency, as determined by management, is U.S. dollars, which is also our reporting currency. Transactions denominated in currencies other than U.S. dollars and the monetary value of assets and liabilities are translated at the period end exchange rates. Revenue and expenses are translated at rates of exchange prevailing on the transaction dates. All of the exchange gains or losses resulting from these other transactions are recognized in the consolidated statements of operations and comprehensive loss.

Stock-Based Compensation

We measure the cost of equity-settled transactions by reference to the fair value of the equity instruments at the date at which they are granted if the fair value of the goods or services received by us cannot be reliably estimated.

We calculate stock-based compensation using the fair value method, under which the fair value of the options at the grant date is calculated using the Black-Scholes Option Pricing Model, and subsequently expensed over the vesting period of the option using the graded vesting method. The provisions of our stock-based compensation plans do not require us to settle any options by transferring cash or other assets, and therefore we classify the awards as equity. Stock-based compensation expense recognized during the period is based on the value of stock-based payment awards that are ultimately expected to vest. We estimate forfeitures at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates. Volatility is determined based on volatilities of comparable companies when the Company does not have its own trading history. The expected term, which represents the period of time that options granted are expected to be outstanding, is estimated based on an average of the term of the options. The risk-free rate assumed in valuing the options is based on the Canadian treasury yield curve in effect at the time of grant for the expected term of the option. The expected dividend yield percentage at the date of grant is Nil as we are not expected to pay dividends in the foreseeable future.

Loss Per Share

Basic loss per share, or EPS, is computed by dividing the loss attributable to common shareholders by the weighted average number of common shares outstanding. Diluted EPS reflects the potential dilution that could occur from common shares issuable through the exercise or conversion of stock options, restricted stock awards, warrants and convertible securities. In certain circumstances, the conversion of options, warrants and convertible securities are excluded from diluted EPS if the effect of such inclusion would be anti-dilutive.

The dilutive effect of stock options is determined using the treasury stock method. Stock options and warrants to purchase our common shares issued during the period were not included in the computation of diluted EPS, as the effect would be anti-dilutive.

Comprehensive Loss

We follow ASC topic 220. This statement establishes standards for reporting and display of comprehensive (loss) income and its components. Comprehensive loss is net loss plus certain items that are recorded directly to shareholders' equity. We currently have no other comprehensive loss items.

Results of Operations

Year ended December 31, 2019 compared to year ended December 31, 2018

Our results of operations for the year ended December 31, 2019 and December 31, 2018 are as follows:

	Year ended December 31, 2019	Year Ended December 31, 2018	Change	
	$	$	$	%
Expenses				
Research and development	10,345,291	10,317,153	28,138	0%
General and administrative	7,114,777	4,521,349	2,593,428	57%
Professional fees	1,536,646	1,534,977	1,669	0%
Amortization - right-of-use asset	509,381	–	509,381	N/A
Amortization - intangible	1,082	2,083	(1,001)	-48%
Depreciation	277,150	203,684	73,466	36%
Loss from operations	19,784,327	16,579,246	3,204,081	19%
Interest Expense	18,338	–	18,338	N/A
Gain on settlement of liabilities	(19,737)	–	(19,737)	N/A
Loss on sale of fixed assets	1,308	69,382	(68,074)	-98%
Foreign exchange gain	(182)	(941)	759	-81%
Loss before income taxes	19,784,054	16,647,687	3,135,367	19%
Income tax expense	–	–	–	N/A
Net loss and comprehensive loss	19,784,054	16,647,687	3,135,367	19%

Revenue

We did not generate any revenue during the years ended December 31, 2019 and December 31, 2018.

Research and Development

Research and development expense for the year ended December 31, 2019 was $10,345,291 compared to $10,317,153 for the year ended December 31, 2018, an increase of $28,138 or less than 1%. The increase was primarily due to an increase in third-party expenses relating to the development of our product candidate and the addition of full-time employees. Contracted expenditures increased $1,098,987 and salaries increased $96,934. These costs were partially offset by a reduction in licensing fees. In 2019, we paid licensing fees of $5,000,000 related to the development of our TRUFORMA™ platform, and licensing fees of $736,841 related to the development of our liquid biopsy platform. In 2018, we paid licensing fees of $5,413,158 related to the development of our TRUFORMA™ platform and $1,738,513 related to the development of our pathogen detection platform.

General and Administrative

General and administrative expense for the year ended December 31, 2019 was $7,114,777, compared to $4,521,349 for the year ended December 31, 2018, an increase of $2,593,428 or 57%. The increase was due to an increase in salaries, bonus and benefits of $2,853,769, which included share-based compensation expense of $2,539,092 resulting from the granting of options to purchase an aggregate of 7,495,000 common shares, all of which vested upon the dates of grant. Other increases in salaries, bonus and benefits were due to increases in sales, marketing and other administrative salaries and benefits. Marketing and investor relations expense increased by $245,997, and travel and accommodation expense increased by $169,383, which were partially offset by a reduction in regulatory costs of $329,666 and a decrease in rent of $263,279 which was reclassified to amortization of right-of-use asset.

Professional Fees

Professional fees for the year ended December 31, 2019 were $1,536,646 compared to $1,534,977 for the year ended December 31, 2018, an increase of $1,669 or less than 1%. The increase was primarily due to increased expenses resulting from an increase in our SEC reporting and registration activities.

Net Loss

Our net loss for the year ended December 31, 2019 was $19,784,054, or $0.19 per share, compared with a net loss of $16,647,687, or $0.18 per share, for the year ended December 31, 2018, an increase of $3,135,167 or 19%. The net loss in each period was attributed to the matters described above. We expect to continue to record net losses in future periods until such time as we have sufficient revenue from our product candidates to offset our operating expenses.

Cash Flows

Year ended December 31, 2019 compared to year ended December 31, 2018

The following table shows a summary of our cash flows for the periods set forth below:

	Year ended December 31, 2019	Year ended December 31, 2018	Change	
	$	$	$	%
Cash flows used in operating activities	(15,634,064)	(11,147,528)	(4,486,536)	40%
Cash flows provided by financing activities	14,891,317	10,258,643	4,632,674	45%
Cash flows used in investing activities	(686,932)	(618,997)	(67,935)	11%
Decrease in cash	(1,429,679)	(1,507,882)	78,203	-5%
Cash and cash equivalents, beginning of year	1,940,265	3,448,147	(1,507,882)	-44%
Cash and cash equivalents, end of year	510,586	1,940,265	(1,429,679)	-74%

Operating Activities

Net cash used in operating activities for the year ended December 31, 2019 was $15,634,064, compared to $11,147,528 for the year ended December 31, 2018, an increase of $4,486,536 or 40%. The increase in net cash used in operating activities resulted primarily from the increase in our net loss, as well as a decrease in accounts payable and accrued liabilities of $288,994, partially offset by an increase in non-cash expenses including stock-based compensation of $2,539,092, amortization of right-of-use asset of $509,381, utilization of deposits and prepaid expenses of $332,826 and depreciation of $277,150.

Financing Activities

Net cash provided by financing activities for the year ended December 31, 2019 was $14,891,317, compared to net cash provided by financing activities of $10,258,643 for the year ended December 31, 2018, an increase of $4,632,674 or 45%. The increase in cash from financing activities resulted from $12,000,000 in proceeds from the private sale of preferred shares, $3,000,000 in proceeds from our underwritten public offering of common stock, net of financing costs, and $600,000 in proceeds from the exercise of stock options, partially offset by $4,002,496 from the private sale of our common shares, proceeds of $2,034,307 from the exercise of stock options and common stock subscriptions of $4,280,000, partially offset by stock issuance costs of $58 in 2018.

Investing Activities

Net cash used in investing activities for the year ended December 31, 2019 was $686,932, compared to $618,997 for the year ended December 31, 2018, an increase of $67,935 or 11%. The increase in net cash used in investing activities resulted primarily from costs associated with the digital data platform, the construction of marketing assets, and the capitalization of integration costs associated with the implementation of an ERP system, partially offset by investments in additional leasehold improvements, equipment and furniture for additional office and lab space in Ann Arbor during 2018.

Liquidity and Capital Resources

We have incurred losses and negative cash flows from operations and have not generated any revenue since our inception in May 2015. As of December 31, 2019, we had an accumulated deficit of $52,057,841. We have funded our working capital requirements primarily through the sale of our capital shares and the exercise of stock options. At December 31, 2019, we had cash and cash equivalents of $510,586.

At December 31, 2019, the Company had cash and cash equivalents of $510,586, prepaid expenses and deposits of $1,228,585, and tax credits receivable of $67,618. Current assets amounted to $1,806,789 with current liabilities of $2,087,525, resulting in a working capital deficit (defined as current assets minus current liabilities) of $280,736.

In the second quarter of 2019, we sold $12,000,000 of our Series 1 Preferred Shares to an accredited investor in a private placement at a purchase price of $1,000,000 per Series 1 Preferred Share. Each Series 1 Preferred Share has a stated value of $1,000,000. The Series 1 Preferred Shares do not have voting rights except to the extent required by applicable law and are not convertible into the Company's common shares. Holders of the Series 1 Preferred Shares will not be entitled to dividends but, in lieu thereof, will receive Net Sales Payments until such time as the holders have received total Net Sales Returns equal to 9 times the aggregate stated value of the outstanding Series 1 Preferred Shares. We will have the right to redeem the outstanding Series 1 Preferred Shares at any time at a redemption price equal to 9 times the aggregate stated value of the Series 1 Preferred Shares outstanding less the aggregate amount of the Net Sales Returns paid (the "Redemption Amount"). Upon any dissolution, liquidation or winding up, whether voluntary or involuntary, holders of Series 1 Preferred Shares will be entitled to a liquidation preference equal to the stated value of the Series 1 Preferred Shares less the Net Sales Returns paid on the Series 1 Preferred Shares. In the event of a fundamental transaction (defined in the Series 1 Preferred Shares to include an amalgamation, merger or other business combination transaction involving our company in which our shareholders do not have the right to cast more than 50% of the votes that may be cast for the election of directors, or a sale, lease or other disposition of the properties and/or assets of our company as an entirety or substantially as an entirety to a third party), the holders of the Series 1 Preferred Shares will be entitled to receive consideration for their Series 1 Preferred Shares equal to a multiple of the stated value of the Series 1 Preferred Shares ranging from 5.0 to 9.0 depending on the timing of the fundamental transaction, subject to a cap equal to the Redemption Amount.

In December 2018, we entered into an at-the-market equity offering sales agreement with Cantor Fitzgerald & Co. under which we may sell pursuant to the universal shelf registration statement common shares in the United States only, from time to time, for up to $50.0 million and was amended on March 25, 2019 to $10.0 million in aggregate sales proceeds in "at the market" transactions. No sales of common shares were made under the sales agreement in the second and third quarters, and the program was inactive at December 31, 2019.

On October 17, 2017 we entered into a five-year $5,000,000 unsecured working capital facility with Equidebt LLC, one of our shareholders (the "Equidebt Facility"). Amounts borrowed under the Equidebt Facility bear interest at a rate of 14% per annum payable at maturity. All amounts borrowed under the Equidebt Facility become due and payable on October 17, 2022. We can make two borrowings per month under the Equidebt Facility, each of which must be for a minimum of $250,000. No amounts were outstanding under the Equidebt Facility at December 31, 2019.

If we raise additional funds by issuing equity securities, our existing security holders will likely experience dilution, and the incurring of indebtedness would result in increased debt service obligations and could require us to agree to operating and financial covenants that could restrict operations. In the event that we are unable to obtain sufficient capital to meet our working capital requirements, we may be required to change or curtail current or planned operations in order to conserve cash until such time, if ever, that sufficient proceeds from operations are generated. In such an event, we may not be able to take advantage of business opportunities and may have to terminate or delay safety and efficacy studies, curtail our product development programs, or sell or assign rights to our product candidates, products and technologies.

Our future capital requirements depend on many factors, including, but not limited to:

- the scope, progress, results and costs of researching and developing our current or future product candidates;
- the timing of, and the costs involved in, obtaining regulatory approvals for any of our current or future product candidates;
- the number and characteristics of the product candidates we pursue;
- the cost of manufacturing our current and future product candidates and any products we successfully commercialize;
- the cost of commercialization activities if any of our current or future product candidates are approved for sale, including marketing, sales, service, customer support and distribution costs;
- the expenses needed to attract and retain skilled personnel;
- the costs associated with being a public company;
- our ability to establish and maintain strategic collaborations, licensing or other arrangements and the financial terms of such agreements; and
- the costs involved in preparing, filing, prosecuting, maintaining, defending and enforcing possible patent claims, including litigation costs and the outcome of any such litigation.

Off Balance Sheet Arrangements

Since inception, we have not engaged in the use of any off-balance sheet arrangements, such as structured finance entities, special purpose entities or variable interest entities.

Contingencies and Legal Proceedings

On November 1, 2019, Heska Corporation ("Heska") filed a complaint for damages and injunctive relief (the "Complaint") in the United States District Court for the Middle District of North Carolina, Case 1:19-cv-01108-LCB-JLW, against Qorvo US, Inc. ("Qorvo US"), Qorvo Biotechnologies, LLC ("Qorvo Biotech" and, together with Qorvo US, "Qorvo") and the Company (collectively with Qorvo, the "Defendants"). The Complaint alleges, among other things, that the Defendants improperly obtained Heska's trade secrets and confidential information and/or conspired to use improper means to misappropriate Heska's trade secrets related to an instrument and related consumable products for performing immunoassay analysis of biomarkers and other substances. The Complaint seeks compensatory and exemplary damages, as well as preliminary and permanent injunctive relief to prevent the Defendants from commercializing the Company's TRUFORMA^{TM} diagnostic instrument. On January 21, 2020, the Defendants filed a motion seeking dismissal of the Complaint. On February 11, 2020, Heska filed its response to the Defendants' motion to dismiss to which the Defendants responded on February 25, 2020.The Company believes that the allegations in the Complaint have no merit and will not have a material adverse effect on the Company's business, results of operations or financial condition, and the Company reaffirms its intention to commence the commercialization of its TRUFORMA^{TM} platform by the end of 2020.

Under the terms of the Development and Supply Agreement, dated November 26, 2018, by and between Qorvo Biotech and the Company (the "Qorvo Agreement"), Qorvo Biotech agreed to indemnify the Company and certain related parties against claims alleging infringement or misappropriation of third-party intellectual property rights, subject to certain limitations and exceptions. Qorvo Biotech has notified the Company that Qorvo Biotech has assumed the defense of the Complaint and will indemnify the Company for losses arising from the Complaint in accordance with the terms of the Qorvo Agreement. Qorvo Biotech has further advised the Company that it intends to mount a vigorous defense to the claims in the Complaint, and that it believes the allegations contained in the Complaint are without merit.

Quantitative and Qualitative Disclosures about Liquidity and Market Risk

Liquidity risk is the risk that we will encounter difficulty raising liquid funds to meet our commitments as they fall due. In meeting our liquidity requirements, we closely monitor our forecasted cash requirements with expected cash drawdown.

We are exposed to interest rate risk, which is affected by changes in the general level of interest rates. Due to the fact that our cash is deposited with major financial institutions in an interest-bearing savings account, we do not believe that the results of operations or cash flows would be affected to any significant degree by a sudden change in market interest rates given their relative short-term nature.

We are also exposed to credit risk at period end from the carrying value of our cash. We manage this risk by maintaining bank accounts with a Canadian Chartered Bank and a U.S. bank that is a member of the Federal Deposit Insurance Corporation. Our cash is not subject to any external restrictions.

We are exposed to changes in foreign exchange rates between the Canadian and United States dollar which could affect the value of our cash. We had no foreign currency hedges or other derivative financial instruments as of December 31, 2019. We do not enter into financial instruments for trading or speculative purposes and do not currently utilize derivative financial instruments.

We have balances denominated in Canadian dollars that give rise to exposure to foreign exchange ("FX") risk relating to the impact of translating certain non-U.S. dollar balance sheet accounts as these statements are presented in U.S. dollars. A strengthening U.S. dollar will lead to a FX loss, while a weakening U.S. dollar will lead to a FX gain. For each Canadian dollar balance of $1.0 million, a +/- 10% movement in the Canadian currency held by us versus the U.S. dollar would affect our loss and other comprehensive loss by $100,000.

Recently adopted accounting pronouncements

In February 2016, the FASB issued new guidance, ASU No. 2016-02, Leases (Topic 842). The new standard establishes a right-of-use model ("ROU") that requires a lessee to recognize a ROU asset and lease liability on the balance sheet for all leases with a term longer than 12 months. Leases will be classified as finance or operating, with classification affecting the pattern and classification of expense recognition in the income statement. Additional qualitative and quantitative disclosures are also required by the new guidance.

A modified retrospective transition approach is required, applying the new standard to all leases existing at the date of initial application. The Company adopted the new standard with an initial application date of January 1, 2019 and used the effective date as its date of initial application. Consequently, financial information was not updated, and the disclosures required under the new standard were not provided for dates and periods before January 1, 2019.

The new standard provides a number of optional practical expedients in transition. The Company has elected the 'package of practical expedients', which permits the Company not to reassess under the new standard prior conclusions about lease identification, lease classification and initial direct costs. The Company has not elected the use-of-hindsight or the practical expedient pertaining to land easements; the latter not being applicable to the Company.

On August 29, 2018, the FASB issued ASU 2018-15, which amends ASC 350-40 to address a customer's accounting for implementation costs incurred in a cloud computing arrangement (CCA) that is a service contract. ASU 2018-15 aligns the accounting for costs incurred to implement a CCA that is a service arrangement with the guidance on capitalizing costs associated with developing or obtaining internal-use software. Specifically, the ASU amends ASC 350 to include in its scope implementation costs of a CCA that is a service contract and clarifies that a customer should apply ASC 350-40 to determine which implementation costs should be capitalized in a CCA that is considered a service contract. The amendments in this update are effective for public business entities for fiscal years beginning after December 15, 2019. Early adoption is permitted.

The Company chose to adopt this guidance on July 1, 2019 using the prospective transition method.

Outstanding Share Data

The only class of outstanding voting or equity securities of the Company are the common shares. As of February 26, 2020:

- there are 128,871,732 common shares issued and outstanding;
- there are stock options outstanding under our Stock Option Plan to acquire an aggregate of 7,040,265 common shares; and
- there are common share purchase warrants (collectively, the "Warrants") outstanding to acquire an aggregate of 21,875,001 common shares, which Warrants were issued in connection with offering complete by the Company on February 14, 2020 (which has been described in a Form 8-K filed by the Company on February 13, 2020). Of these Warrants, 20,833,334 are exercisable for a cash price of $0.20, and 1,041,667 are exercisable for cash price of $0.15. The Warrants also have a "cashless exercise" feature which is applicable in certain circumstances. The cashless exercise feature could result in the potential issuance of common shares based upon the "in-the-money" value of the Warrants at the time of exercise of the applicable Warrants. The number of the common shares that may be issued is not determinable. However, the number of common shares that are issuable is based upon a formula contained in the Warrants, which determines the number of common shares issuable by dividing the "in-the-money" value (based upon the then current market price, as provided in the Warrant) by the then current market price, and multiplying this result by the number of common shares that are issuable under the Warrant pursuant to cash exercise.

Item 8. Financial Statements and Supplementary Data.

Our financial statements, together with the independent registered public accounting firm report thereon, are incorporated by reference from the applicable information set forth in Part IV Item 15, "Exhibits, Financial Statement Schedules" of this Annual Report on Form 10-K.

Item 9. Changes in and Disagreements With Accountants on Accounting and Financial Disclosure.

None.

Item 9A. Controls and Procedures.

Evaluation of Our Disclosure Controls

We maintain disclosure controls and procedures that are designed to provide reasonable assurance that material information required to be disclosed in our periodic reports filed under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified in the SEC's rules and forms and to provide reasonable assurance that such information is accumulated and communicated to our management, our interim chief executive officer and chief financial officer, to allow timely decisions regarding required disclosure. We carried out an evaluation, under the supervision and with the participation of our management, including our principal executive and principal financial officer, of the effectiveness of the design and operation of our disclosure controls and procedures, as defined in Rule 13(a)-15(e) under the Exchange Act. Based on this evaluation, our principal executive officer and principal financial officer concluded that, as of December 31, 2019, our disclosure controls and procedures were effective.

Management's Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rules 13a-15 (f) and 15d-15(f) under the Exchange Act. Under the supervision and with the participation of our management, including our Interim Chief Executive Officer and Chief Financial Officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting based on criteria established in the framework in "*Internal Control — Integrated Framework (2013)"* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this evaluation, our management concluded that our internal control over financial reporting was effective as of December 31, 2019.

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

This Annual Report on Form 10-K does not include an attestation report of our independent registered public accounting firm because we are an "emerging growth company," and may take advantage of certain exemptions from various reporting requirements that are applicable to public companies that are not "emerging growth companies" including, but not limited to, not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act.

Changes in Internal Controls over Financial Reporting

During the year ended December 31, 2019, there have been no changes in our internal control over financial reporting that have materially affected or are reasonably likely to materially affect our internal controls over financial reporting. From time to time, we make changes to our internal control over financial reporting that are intended to enhance its effectiveness, and which do not have a material effect on our overall internal control over financial reporting.

Item 9B. Other Information.

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance.

MANAGEMENT

Executive Officers and Directors

The following table sets forth the name, age, position and tenure of each of our directors and executive officers as of December 31, 2019:

Name	Age	Position
Shameze Rampertab	53	Interim Chief Executive Officer, Chief Financial Officer, Corporate Secretary and Director
Stephanie Morley	44	President and Chief Operations Officer
Bruk Herbst	50	Chief Commercial Officer
James LeBar [(1)(2)(3)]	67	Director
Rodney Williams [(1)(2)(3)]	58	Director
Jeffrey Rowe [(1)(2)(3)]	64	Chairman
Johnny D. Powers [(2)(3)]	58	Director

(1) Member of the Audit Committee
(2) Member of the Compensation Committee
(3) Member of the Nominating and Corporate Governance Committee

Management

Shameze Rampertab, CPA, CA has been our Interim Chief Executive Officer since December 2019 and our Chief Financial Officer since March 2016. In April 2016, he took on the roles of Corporate Secretary and Director. Mr. Rampertab acted as an independent consultant for a number of companies, including us, in respect of which he provided general financial advisory and accounting services prior to his appointment as Chief Financial Officer, from November 2015 to March 2016. He was the Chief Financial Officer of multiple publicly-traded health care companies including Profound Medical Corp. from October 2014 to November 2015 and Intellipharmaceutics International Inc. from October 2010 to October 2014. Mr. Rampertab is a chartered professional accountant and chartered accountant with twenty years of experience in capital markets, strategic planning and analysis. He holds an MBA from McMaster University and a Bachelor's degree in molecular genetics and molecular biology from the University of Toronto. We selected Mr. Rampertab to serve on our board of directors due to his strong experience in the financial, medical and scientific arenas.

Stephanie Morley, DVM has been our President and Chief Operations Officer since September of 2019. From October 2015 until September of 2019, she served as our Chief Operating Officer and Vice President of Product Development. Prior thereto, from July 2015 until October 2015, Dr. Morley was a consultant for us providing strategic and tactical support. From December 2013 to August 2015 Dr. Morley served as Associate Director of Business Development with the University of Michigan Medical School. From April 2006 to August 2013 Dr. Morley held several positions of increasing responsibility with MPI Research, a contract research organization, including Vice President of Operations. Dr. Morley is a trained veterinarian, having earned her DVM degree from Michigan State University. After earning her DVM degree, Dr. Morley was a practicing veterinarian with Oakwood Animal Hospital in Kalamazoo, MI and Adobe Animal Medical Center in Albuquerque, NM where she assumed dual roles of both clinical practitioner and operations management

Bruk Herbst has been our Chief Commercial Officer since July 2017. From October 2015 to December 2016 Mr. Herbst was the Executive Senior Vice President of Sales and Marketing at i4C Innovations Inc. d/b/a Voyce, an animal health and wellness company. From October 2007 to September 2015, he served as Executive Senior Director and Head of U.S. Sales at IDEXX Laboratories, Inc, a developer, manufacturer and distributor of products and services for the companion animal veterinary and other markets, where he was responsible for in-clinic and reference lab diagnostics, point of care, information technologies and digital radiology. From January 1999 to October 2007 Mr. Herbst also held commercial leadership roles in patient monitoring, pharmacy and diagnostics with Omnicare Specialty Care Group and Life Systems. He holds a Bachelor of Science degree in business from the University of Arizona.

Non-Management Directors

James LeBar has been a Director and the Chairman of our Compensation Committee since April 2016. Mr. LeBar also served as a director on the board of Zomedica Pharmaceuticals, Inc. from May 2015 until the completion of our Qualifying Transaction in April 2016. From March 2011 until his retirement in January 2016, Mr. LeBar served as a turnaround consultant for Nationwide Placement Inc., a specialized health training company. We selected Mr. LeBar to serve on our board of directors due to his experience as an entrepreneur and executive leader, an expert in building and operating start-up companies and establishing corporate structures for profitability and success.

Rodney Williams, *MBA* has served as a Director and the Chair of our Nominating and Corporate Governance Committee since April 2016. He is currently employed as Corporate Global Vice President Portfolio and Services for publicly-traded Align Technologies (ALGN) as of February 1, 2017. Previously, Mr. Williams was an entrepreneur-in-residence with PTV Healthcare Capital, a private equity investment firm and he has been with PTV since October 2015. Prior to PTV, he was President and CEO of Heart Rhythm Society Consulting Services from January 2013 through August 2015. From January 2008 through January 2013, Mr. Williams served as Senior Vice President of Global Product Planning and Marketing at St. Jude Medical Inc. Mr. Williams also served in commercial leadership roles in sales and marketing at GE Healthcare, Johnson and Johnson, and Bausch & Lomb. Mr. Williams earned both his MBA and Bachelor of Science degrees from the University of Southern California and attended the General Management Executive Leadership Program at The Wharton School of Business. We selected Mr. Williams to serve on our board of directors due to his experience with both large and small-cap medical technology and related health care companies and his global commercialization expertise.

Jeffrey Rowe has served as Chairman of the Board since December 2019 and the Chairman of our Audit Committee since April 2016. Until his retirement in October 2015, Mr. Rowe served as Executive Vice President and a Director of Diplomat Pharmacy, Inc., the largest independent specialty pharmacy company in the U.S. During his tenure with Diplomat, the company grew from a single location with less than $5 million in revenue, to sixteen locations and $3 billion in sales, and became publicly traded on the New York Stock Exchange. Prior to his career with Diplomat, Mr. Rowe owned two successful community pharmacies in Genesee County, Michigan. He holds a Bachelor of Pharmacy degree from Ferris State University. We selected Mr. Rowe to serve on our board of directors due to his financial expertise and his extensive experience in pharmaceutical operations, the specialty pharmacy industry and fundamental business strategies involving accreditation, contracting, cybersecurity and regulation, combined with an expertise in compounding and integrative medicine.

Johnny D. Powers has been a Director since August 2019 and a strategic advisor since December 2019. Dr. Powers has over 30 years of experience in the medical diagnostics industry, including over seven years of experience in veterinary healthcare as a senior executive at IDEXX Laboratories. Dr. Powers was Executive Vice President of IDEXX from 2012 until 2016, overseeing multiple business units, including IDEXX Reference Labs, Telemedicine Services, Rapid Assay Point-of-Care Products, Bioresearch and Worldwide Operations. He joined IDEXX as Corporate Vice President in February 2009, where he led IDEXX Reference Labs to a global leadership position. Prior to joining IDEXX, Dr. Powers was Vice President responsible for the Cancer Diagnostics business of Becton, Dickinson and Company, a medical technology company, from 2007 to 2008. Dr. Powers joined Becton, Dickinson and Company as a result of its acquisition in 2006 of TriPath Imaging Inc., a molecular diagnostics-based cancer diagnostics company, where he held various senior management positions from 2001 to 2007, including Vice President of Worldwide Operations, and President of the TriPath Oncology business unit. From 1996 to 2001, Dr. Powers was employed by Ventana Medical Systems, Inc., a tissue-based cancer diagnostics company, where he held various positions, including Vice President and General Manager of the Anatomical Pathology business and Vice President and General Manager of Worldwide Operations. From 1989 to 1996, Dr. Powers was employed by Organon Teknika Corporation, a medical diagnostics company, in various technical management roles. Dr. Powers holds a bachelor's degree in chemistry from Wake Forest University, an M.S. in chemical engineering from Clemson University, an M.B.A. from the Duke University Fuqua School of Business and a Ph.D. in biochemical engineering from North Carolina State University. Dr. Powers has an extensive and proven track record of product innovation, commercial execution and operational excellence in the medical diagnostics industry. He has led the development and commercialization of hundreds of innovative diagnostic platforms, products and services in early-stage businesses as well as global, multi-billion-dollar companies. We selected Mr. Powers to serve on our board due to his background and experience in the veterinary healthcare field and his proven capabilities in commercial operations.

Board Composition

At our 2019 annual shareholders' meeting, the size of the board was fixed at six directors and six directors were elected. Subsequently, one of the directors resigned, and therefore our board of directors currently consists of five members with one vacancy. Our bylaws provide that our directors will hold office until the close of the first annual meeting of shareholders following his or her election unless the director is elected for a stated term. Our board of directors is responsible for the business and affairs of our company and considers various matters that require its approval.

Our board of directors is comprised of a majority of directors who are "independent" (as discussed below), and the Board has established an Audit Committee, a Compensation Committee and a Nominating and Corporate Governance Committee. We have adopted charters for our each of these committees and a code of ethics and business conduct, or Code of Ethics. Our Code of Ethics is available on our website at www.zomedica.com. The committee charters are also available for review on our website.

Under the Alberta Business Corporations Act, ("ABCA"), at least 25% of our directors must be "resident Canadians" as defined in the ABCA. At present, Messrs Rampertab and LeBar meet this requirement.

Director Independence

Our board of directors has determined that all of our directors, other than Mr.Rampertab and Dr. Powers are "independent," as defined under the NYSE American. For purposes of the NYSE American rules, an independent director means a person other than an executive officer or employee of our company or any other individual having a relationship which, in the opinion of our board of directors, would interfere with the exercise of independent judgment in carrying out the responsibilities of a director, subject to certain additional limitations. Such directors are also deemed to be "independent" under applicable Canadian securities laws.

Code of Ethics

Our board of directors has adopted the Code of Ethics, which applies to all officers, directors and employees. Our Code of Ethics is available on our website at www.zomedica.com. Information contained in, or accessible through, our website does not constitute part of this Form 10-K. We intend to disclose any amendments to our Code of Ethics, or waivers of its requirements, on our website or in our filings under the Exchange Act.

Board Committees

Our board of directors has three standing committees: The Audit Committee, the Compensation Committee and the Nominating and Corporate Governance Committee. Except for Dr. Powers, all of our committee members are "independent," as defined under the NYSE American rules and for purposes of Canadian securities laws. Dr. Powers was an "independent" director until December 2, 2019, when he was named as a Strategic Advisor to provide day-to-day strategic oversight and management guidance to Mr. Rampertab, as the Interim Chief Executive Officer.

Each of our committee charters is available on our website at www.zomedica.com.

Audit Committee

Our audit committee is currently comprised of three members, Mr. Rowe (Chairman), Mr. Williams and Mr. LeBar. Each member of our audit committee is a non-employee member of our board of directors. We have designated Mr. Rowe as our "audit committee financial expert," as defined under Item 407 of Regulation S-K. All of the members of our audit committee are "independent" members of our board of directors, as required by the NYSE American rules and Canadian securities laws.

The purpose of our audit committee of our board of directors is to oversee (i) the integrity of our company's financial statements, our company's accounting and financial reporting processes and financial statement audits; (ii) our company's compliance with applicable legal and regulatory requirements; (iii) our company's systems of internal control over financial reporting and disclosure controls and procedures; (iv) the independent auditor's engagement, qualifications, performance, compensation and independence; (v) review of related party transactions; and (vi) compliance with the company's corporate policies. The audit committee's function is one of oversight, whereas the planning and conduct of the audit is the responsibility of the independent auditor, and the financial statements are the responsibility of the company's management.

Each member of the audit committee has experience reviewing financial statements and dealing with related accounting and auditing issues and is "financially literate" within the meaning of Canadian securities laws.

The audit committee has the sole authority to pre-approve all audit and permitted non-audit services provided by the independent auditor.

Compensation Committee

Our compensation committee is currently comprised of four members, Mr. Rowe, Mr. LeBar, Mr. Williams and Dr. Powers. All of the members of our compensation committee are "independent", as defined under the NYSE American rules and for purposes of Canadian securities laws, except Dr. Powers who was independent until December 2, 2019 when he was named as a Strategic Advisor.

The purpose of our compensation committee is to (i) make recommendations to our board of directors relating to evaluation and compensation of our executives, (ii) oversee incentive, equity-based and other compensatory plans in which executive officers and key employees of our company participate, (iii) review and participate in determining director compensation and (iv) prepare any report on executive compensation required by the rules and regulations of the Commission and the listing standards of NYSE American.

We chose to retain Dr. Powers as a member of the Compensation Committee as the board believes his expertise continues to be valuable in these areas even though he is no longer an independent director.

Nominating and Corporate Governance Committee

Our nominating and corporate governance committee is currently comprised of four members, Mr. Williams (Chairman), Mr. LeBar Mr. Rowe and Dr. Powers. All of the members of our nominating and corporate governance committee are "independent" as defined under the NYSE American rules and for the purposes of Canadian securities laws, except Dr. Powers who was independent until December 2, 2019 when he was named as a Strategic Advisor.

The purpose of our nominating and corporate governance committee of our board of directors is to carry out the responsibilities delegated by the board of directors relating to our director nominations process, developing and maintaining our company's corporate governance policies, and any related matters required by the federal securities laws or by the applicable listing rules of the NYSE American.

We chose to retain Dr. Powers as a member of Nominating and Corporate Governance Committees as the board believes his expertise continues to be valuable in these areas even though he is no longer an independent director.

Board Leadership Structure and Role in Risk Oversight

Although we have not adopted a formal policy on whether the Chairman and Chief Executive Officer positions should be separate or combined, we have determined that it is in our best interests and the best interests of our shareholders to separate these roles at this time. Mr. Rampertab currently serves as our Interim Chief Executive Officer and Mr. Rowe serves as Chairman of our board of directors.

Our board of directors is primarily responsible for overseeing our risk management processes. The board of directors receives and reviews periodic reports from management, auditors, legal counsel, and others, as considered appropriate regarding our assessment of risks. The board of directors focuses on the most significant risks facing our general risk management strategy, and us and also ensures that risks undertaken by us are consistent with the board's appetite for risk. While the board oversees our risk management, management is responsible for day-to-day risk management processes. We believe that this division of responsibilities is the most effective approach for addressing the risks facing us and that our board leadership structure supports this approach.

Item 11. Executive Compensation

EXECUTIVE AND DIRECTOR COMPENSATION

The following table shows the compensation for each of the years ended December 31, 2019 and December 31, 2018 awarded to or earned by our principal executive officer and our two other most highly compensated executive officers who were serving as executive officers as of December 31, 2019. The persons listed in the following table are referred to herein as the "named executive officers."

Name and Principal Position		Salary ($)	Bonus ($)	Option Awards(4) ($)	All Other Compensation(5) ($)	Total ($)
Gerald Solensky, Jr.[1]						
(Former) Chairman of the Board	2018	309,737	70,000	–	24,000	403,737
(Former) Chief Exectuive Officer	2019	334,610	30,000	812,490	336,730	1,513,830
Shameze Rampertab[2]						
Interim Chief Executive Officer, Chief Financial	2018	242,128	72,625	–	7,390	322,143
Officer, Corporate Secretary and Director	2019	226,261	31,289	367,555	8,013	633,118
Stephanie Morley[3]						
President and Chief Operations Officer	2018	202,596	70,000	–	24,000	296,596
	2019	207,292	30,000	448,212	26,082	711,586

[1] Mr. Solensky received no compensation for his services as our President and Chief Executive Officer prior to December 31, 2015, other than a payment in the amount of $4,238, which he subsequently gifted back to ZoMedica Pharmaceuticals Inc. Mr. Solensky entered into an employment agreement in December 2016 and amended in January 2017 pursuant to which he receives an annual salary of $285,000 and a monthly car allowance of $2,000.

[2] Dr. Morley began serving as a consultant in July 2015 and received consulting fees of cash of $16,822 and 329,636 of common shares having a value of $22,600 at the times of issuance. She was appointed Chief Operating Officer of ZoMedica Pharmaceuticals Inc. in October 2015. In connection with her appointment, she received a signing bonus consisting of 485,944 common shares having a value of $87,400 at the time of issuance. Dr. Morley entered into an employment agreement with ZoMedica Pharmaceuticals, Inc. in October 2015 pursuant to which she receives an annual salary of $150,000 per annum, which was increased to $200,000 effective July 2017. Dr. Morley also received a monthly allowance of $2,000 effective July 2017 for vehicle and tax preparation.

[3] Mr. DiMarzo began serving as a consultant in October 2016 and received consulting fees of cash of $50,958 and options to purchase 100,000 common shares at an exercise price of $1.13. He was appointed Executive Vice President of Global Strategy of ZoMedica Pharmaceuticals, Inc. in February 2017 pursuant ot which he receives an annual salary of $215,000 and a monthly allowance of $4,000 for vehicle, insurance and tax preparation.

[4] All Other Compensation represents consulting fees and monthly allowances.

Employment and Consulting Agreements

Gerald Solensky Jr.

In December 2016, we entered into an employment agreement with Mr. Solensky, which was amended in August 2017 and July 2018 pursuant to which Mr. Solensky served as our President and Chief Executive Officer. Mr. Solensky's amended employment agreement had an unspecified term and provided him with an annual base salary of $325,000 plus quarterly bonuses and participation in our employee benefit plan. In addition, we agreed to pay Mr. Solensky a $2,000 monthly car allowance and four weeks of paid vacation. Pursuant to Mr. Solensky's amended employment agreement, any options granted to him were subject to accelerated vesting upon a change of control, a resolution of our board in anticipation of a change of control, our termination of his employment without cause or his resignation for good reason. Mr. Solensky's employment agreement also included customary non-solicitation, confidentiality and assignment of inventions provisions. In the event that we terminated Mr. Solensky's employment without cause or he resigns for good reason, we were required to pay him twelve months base salary and any quarterly bonus allocable or payable prior to termination.

In connection with his resignation as an officer and director of our company, we entered into a separation agreement with Mr. Solensky which provided for severance payments to Mr. Solensky of $338,286, in two tranches all of which have been paid. We also entered into a cooperation agreement, or the cooperation agreement, with Mr. Solensky which includes the following provisions:

- A restriction on the ability of Mr. Solensky to sell his common shares, subject to permitted exceptions. Exceptions include certain transfers to Equidebt LLC, which has a credit facility with us, and a transfer process whereby we are permitted to designate a proposed purchaser of any shares that Mr. Solensky intends to sell.

- A commitment to vote his common shares in support of matters proposed by the Board of Directors at shareholder meetings, including directors proposed for election by the Board.

- Certain restrictions in relation to actions as shareholder, including supporting any person who intends to contest the election of our directors or making any proposal in respect of a merger transaction.

The cooperation agreement has a term that expires on our second annual shareholder meeting, subject to early termination if Mr. Solensky ceases to own 10% of our outstanding common shares. We also entered into a consulting agreement with Mr. Solensky under which he agreed to provide certain consulting services to us upon our request for a period specified in the consulting agreement.

Shameze Rampertab

In July 2016, we entered into a written employment agreement with Mr. Rampertab pursuant to which Mr. Rampertab serves as our Chief Financial Officer. Mr. Rampertab's employment agreement was amended in November 2016 with an unspecified term and provides him with an annual base salary of $225,563 plus quarterly bonuses and other plans provided to senior executives. In addition, we agreed to pay Mr. Rampertab a $602 monthly car allowance, premiums covering medical, dental and disability insurance and reimbursements to travel expenses along with four weeks of paid vacation. Pursuant to Mr. Rampertab's employment agreement, any options granted to him will be subject to accelerated vesting upon a change of control, a resolution of the Board of Directors in anticipation of a change of control or the Corporation's termination without cause or constructive termination of Mr. Rampertab's employment. Mr. Rampertab's employment agreement also includes customary non-solicitation, confidentiality and assignment of inventions provisions. If we constructively terminate Mr. Rampertab or terminate Mr. Rampertab's employment for any reason other than death or just cause, we are required to pay Mr. Rampertab for his accrued vacation along with the product of multiplying 10.35 by the sum of Mr. Rampertab's then current salary, monthly car allowance and a monthly average of the bonus amounts payable in the previous twelve months. In the event of a change of control, the board must consider additional bonus payments to Mr. Rampertab. In December of 2019, Mr. Rampertab was named Interim Chief Financial Officer. No changes were made to his employment agreement.

Stephanie Morley

In connection with her appointment as President Dr. Morley entered into a new employment agreement with us, which has an initial term of three years and and automatically extends for one-year terms unless either party elects to terminate it. Under the agreement, Dr Morley will receive an annual base salary of $225,000, subject to annual review and will be entitled to quarterly cash bonuses upon the achievement of certain specified objectives established by the Board. Pursuant to the agreement, Dr. Morley will receive a $2,000 monthly allowance in respect of the following items: (i) vehicle and (ii) tax preparation. Dr. Morley is entitled to four weeks paid vacation time. Pursuant to the agreement, any options granted to Dr. Morley will be subject to accelerated vesting in the event that Dr. Morley's employment is terminated by us without cause. The agreement also includes customary non-solicitation, confidentiality and assignment of inventions provisions. In the event that Dr. Morley has a "separation from service" within the meaning of Section 409A of the Internal Revenue Code of 1986, as amended, or the Code, Dr. Morley would have the right to exercise all of her options, and we would be required to pay her a lump sum equal to 12 months of her base salary and any quarterly bonus allocable or payable prior to the date of termination.

Bruk Herbst

In July 2017, we entered into a written employment agreement with Mr. Herbst pursuant to which Mr. Herbst serves as our Chief Commercial Officer. Under the agreement, Mr. Herbst receives an annual base salary of $150,000, subject to annual review and will be entitled to quarterly cash bonuses upon the achievement of certain specified objectives established by the Board. Mr. Herbst also receives a $4,000 monthly allowance in respect of the following items: (i) vehicle and (ii) tax preparation. Mr. Herbst is entitled to three weeks paid vacation time. Pursuant to the agreement, any options granted to Mr. Herbst will be subject to accelerated vesting in the event that Mr. Herbst's employment is terminated by us without cause. The agreement also includes customary non-solicitation, confidentiality and assignment of inventions provisions. In the event that Mr. Herbst has a "separation from service" within the meaning of Section 409A of the Internal Revenue Code of 1986, as amended, or the Code, Mr. Herbst would have the right to exercise all of his options, and we would be required to pay him a lump sum equal to 12 months of his base salary and any quarterly bonus allocable or payable prior to the date of termination.

Outstanding Equity Awards at Fiscal Year End

The following table sets forth certain information, on an award-by-award basis, concerning outstanding equity awards for each named executive officer as of December 31, 2019.

	Option awards					Stock awards			
Name	Number of securities underlying unexercised options (#) exercisable	Number of securities underlying options (#) unexercisable	Equity incentive plan awards: number of securities underlying unexercised unearned options (#)	Option exercise price ($)	Option expiration date	Number of shares or units of stock that have not vested (#)	Market value of shares of units of stock that have not vested ($)	Equity incentive plan awards: number of unearned shares, units or other rights that have not vested (#)	Equity incentive plan awards: market or payout value of unearned shares, units or other rights that have not vested ($)
Gerald Solensky, Jr.[1]	1,705,265	–	–	1.52	1/10/2021	–	–	–	–
Shameze Rampertab [1]	950,000	–	–	1.52	1/10/2021	–	–	–	–
Stephanie Morley [1]	900,000	–	–	1.52	1/10/2021	–	–	–	–
Bruk Herbst [1]	300,000	–	–	1.52	1/10/2021	–	–	–	–
Stephanie Morley [2]	500,000	–	–	0.43	9/16/2021	–	–	–	–

(1) Stock options vest immediately upon issue, with an issue date of January 10, 2019, and expire on January 10, 2021.
(2) Stock options vest immediately upon issue, with an issue date of September 16, 2019 and expire on September 16, 2021.

Equity Compensation Plan Information

The following table provides information, as of December 31, 2019, with respect to all compensation arrangements maintained by us, including individual compensation arrangements, under which shares are authorized for issuance.

Plan Category	Number of Securities to be issued upon outstanding options rights	Weighted-average exercise price outstanding options and rights	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in columns (a))
	(a)	(b)	(c)
Equity compensation plans approved by shareholders	7,040,265	$ 1.29	0
Equity compensation plans not approved by shareholders	Nil	N/A	Nil
Total	7,040,265	$ 1.29	0

Stock Option Plans

As of December 31, 2015, Zomedica Pharmaceuticals Corp (formerly, Wise Oakwood Ventures Inc.), had a shareholder-approved option plan, or the WOW Plan, pursuant to which options to purchase 200,000 common shares were outstanding. The terms of the WOW Plan were substantially similar to those of our current Stock Option Plan. In connection with the Qualifying Transaction, these options were consolidated into options to purchase 80,000 common shares of Zomedica Pharmaceuticals Corp. and fully exercised and the WOW Plan was terminated.

In April 2016, concurrent with the completion of the Qualifying Transaction, we adopted a new equity stock option plan, the Stock Option Plan. The Stock Option Plan was approved by our shareholders. The purpose of the Stock Option Plan is to attract and retain employees, consultants, officers and directors to our company and to motivate them to advance the interests of our company by affording them with the opportunity, through share options, to acquire an equity interest in our company and benefit from its growth.

Administration. The Stock Option Plan is administered by our board of directors. Our board of directors may grant options to purchase shares of our common shares or such other shares as may substitute therefore in the capital of Zomedica Pharmaceuticals Corp. Our board of directors also has authority to determine the terms and conditions of each award, prescribe, amend and rescind rules and regulations relating to the Stock Option Plan, and amend the terms of awards (provided that no amendment may materially prejudice the rights of a participant without consent such participant's consent). Our board of directors may delegate authority to a committee of our directors or to an officer. Our board or directors may terminate the Stock Option Plan.

Eligibility. Persons eligible to receive awards under the Stock Option Plan include any person who is an employee, officer, director or consultant provided that any consultant has performed and/or continues to perform services for our company under a written agreement and on an ongoing basis or is expected to provide a service to our company.

Shares Subject to the Stock Option Plan. The aggregate number of shares of common shares available for issuance in connection with options and awards granted under the Stock Option Plan is ten percent of the total number of issued and outstanding common shares calculated on a non-diluted basis. If any award of options granted under the Stock Option Plan expires or terminates without having been fully exercised, that number of common shares shall become available for the purpose of future grants under the Stock Option Plan.

Terms and Conditions of Options. Our board of directors will determine the exercise price of options granted under the Stock Option Plan. The exercise price of stock options may not be less than that from time to time permitted under the rules of any stock exchange on which the common shares are then listed. In addition, the exercise price of an option must be paid in cash.

The number of common shares subject to each option shall be determined by our board of directors with the following limitations. The number of common shares reserved for issuance to any one individual, consultant, person conducting investor relations or insider (as defined in the *Securities Act* (Alberta)) in a 12-month period may not exceed 5%, 2%, 2% and 10%, respectively, of the issued and outstanding common shares at the time of the grant.

No option may be exercisable for more than ten years from the date of grant. Options granted under the Stock Option Plan will be exercisable at such time or times as our board of directors prescribes at the time of grant. Options shall only be exercised by the participant as long as the optionee remains or was within the last ninety days an employee, officer, director or consultant, if the optionee dies, within one year of the optionee's death or if an optionee is engaged in investor relations activities, within 30 days of being so engaged by our company.

All benefits, rights and options accruing under the Stock Option Plan are non-transferrable and non-assignable unless specifically provided in the grant. During the lifetime of a participant, any options granted under the Stock Option Plan may only be exercised by the participant and in the event of the death of a participant, by the person or persons to whom the participant's rights under the option pass by the participant's will or applicable law.

Effect of Certain Corporate Transactions. In the event of a sale by our company of all or substantially all of its assets or in the event of a change of control (as defined in the Stock Option Plan) of our company, each participant shall be entitled to exercise, in whole or in part, the options granted to such participant under the Stock Option Plan, either during the term of the option or within ninety days after the date of the sale or change of control, whichever first occurs.

Director Compensation

We have not established a formal compensation policy for our outside directors. Set forth below is information concerning the compensation of directors, other than directors who are our employees, paid during the year ended December 31, 2019:

On January 10, 2019, we granted the following options to our non-employee directors:

- Mr. LeBar - options to acquire 400,000 common shares,
- Mr. Williams - options to acquire 400,000 common shares,
- Mr. Rowe - options to acquire 350,000 common shares.

Each of these options had an exercise price $1.52 per common share, were immediately exercisable and expire two years from the date of grant.

On August 16, 2019, we granted the following options to Dr. Powers in connection with his appointment as a director of our company: - options to acquire 500,000 common shares at an exercise price of $0.26 per common share; options to acquire 100,000 common shares at an exercise price of $0.35 per common share; options to acquire 100,000 common shares at an exercise price of $0.45 per common share; options to acquire 100,000 common shares at an exercise price of $0.55 per common share; options to acquire100,000 common shares at an exercise price of $0.65 per common share; and options to acquire 100,000 common shares at an exercise price of $0.75 per common share. Each of these options were immediately exercisable and expire two years from the date of grant.

The table below summarizes the compensation we paid to our non-employee directors in 2019.

Name	Fees earned or paid in cash ($)	Stock Awards ($)	Option Awards ($)	Total ($)
Jim Lebar	–	–	$ 156,204	$ 156,204
Rod Williams	–	–	$ 156,204	$ 156,204
Jeff Rowe	–	–	$ 136,678	$ 136,678
Johnny D. Powers	–	–	$ 97,986	$ 97,986

On December 3, 2019, we named Dr. Powers as a Strategic Advisor to provide day-to-day strategic oversight and management guidance to Mr. Rampertab as Interim Chief Executive Officer. In connection therewith, we entered into a strategic advisory agreement with Dr. Powers pursuant to which we agreed to pay him the following compensation:

- The sum of $190 per hour, billable in increments of one-quarter of an hour;
- An option grant of 250,000 options to acquire common shares, with an exercise price at fair market value, a two-year term and full vesting on date of grant, subject to establishment and approval by the Board of Directors accordance with the stock option plan;
- Reimbursement for travel expenses, food, lodging, any per diem allowance, equipment, supplies, or similar items

As of December 31, 2019, Dr. Powers had not received any compensation under this agreement.

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

The table below sets forth certain information with respect to beneficial ownership of our securities as of February 26, 2020 by:

- each person known by us to be the beneficial owner of more than 5% of our issued and outstanding common shares;
- each of our executive officers and directors; and
- all executive officers and directors as a group.

The number of shares beneficially owned by each shareholder is determined in accordance with SEC rules. Under these rules, beneficial ownership includes any shares as to which a person has sole or shared voting power or investment power. Percentage ownership is based on 128,871,732 common shares outstanding on February 26, 2020. In computing the number of shares beneficially owned by a person and the percentage ownership of that person, common shares subject to stock options, warrants or other rights held by such person that are currently convertible or exercisable or will become convertible or exercisable within 60 days of February 26, 2020 are considered outstanding, although these shares are not considered outstanding for purposes of computing the percentage ownership of any other person.

Unless otherwise stated, the address of each 5% or greater beneficial holder is c/o Zomedica Pharmaceuticals Corp., 100 Phoenix Drive, Suite 180, Ann Arbor, Michigan 48108. We believe, based on information provided to us that each of the shareholders listed below has sole voting and investment power with respect to the shares beneficially owned by the shareholder unless noted otherwise, subject to community property laws where applicable.

Name of Selling Shareholder	Beneficial Ownership	
	Number of Shares Beneficially Owned	Percentage of Total Outstanding Common Shares
Gerald Solensky Jr. [1]	40,250,936	30.94%
Sabby Volatility Warrant Master Fund, Ltd.	8,333,334	6.49%
Jeffrey S. Starman [8]	9,287,869	7.24%
Bradly J. Hayosh [8]	9,134,655	7.12%
Armistice Capital Master Fund Ltd.	6,768,444	5.27%
Jeffrey Rowe [2]	12,590,480	9.78%
Stephanie Laine Morley [3]	2,864,580	2.21%
Shameze Rampertab [4]	1,293,000	1.00%
Johnny D. Powers [5]	1,000,000	*
Bruk Herbst [6]	365,996	*
James LeBar [7]	420,000	*
Rodney Williams [8]	601,900	*
All executive officers and directors as a group (seven persons)	19,135,956	14.84%

*Less than one percent.

[1] Includes options to purchase 1,705,265 common shares.

[2] Includes 11,120,000 common shares held in the Rowe Family GST Trust, 664,480 common shares held by the Jeffrey M. Rowe U/T/A dated November 5, 2004 (the "Jeffrey M. Rowe Living Trust") and 181,000 common shares held by Mr. Rowe through his IRA. Mr. Rowe's sister, Michele Ramo, serves as trustee to the Rowe Family GST Trust with Mr. Rowe's oversight. Mr. Rowe has disclaimed all beneficial ownership of the common shares held in the Rowe Family GST Trust except to the extent of his pecuniary interest therein. Mr. Rowe serves as trustee to the Jeffrey M. Rowe Living Trust and exclusively makes all investment decisions on behalf of this trust. Mr. Rowe also has options to purchase 350,000 common shares.

[3] Includes options to purchase 1,400,000 common shares, 641,685 common shares held by The Dr. Stephanie Morley Revocable Living Trust and 5,000 common shares held by Dr. Morley's children

[4] Includes options to purchase 950,000 common shares and 3,000 common shares held by Mr. Rampertab's children.

[5] Includes options to purchase 1,000,000 common shares.

[6] Includes options to purchase 300,000 common shares and 3,000 common shares held by Mr. Herbst's children.

[7] Includes options to purchase 400,000 common shares.

[8] Includes 40,000 common shares held by Entrust Group Inc. FBO Rodney James Williams IRA and options to purchase 400,000 common shares

[9] Includes (i) 8,952,493 common shares held by Equidebt LLC ("Equidebt"), (ii) 25,874 common shares held by Wickfield Properties, LLC ("Wickfield"), and (iii) 37,195 common shares held by Lakeview Asset Management LLC ("Lakeview"). Messrs. Hayosh and Starman are Managers of Equidebt and Wickfield and share voting and dispositive power over the common shares held by Equidebt and Wickfield. Mr. Hayosh and JH5 Family LLC ("JH5") each own a 50% membership interest in Lakeview. Mr. Hayosh has sole dispositive power over the common shares held by Lakeview, and Mr. Starman owns a 39.5% interest in JH5. Mr. Hayosh and Mr. Starman may be deemed to own beneficially the shares held by Lakeview. Also includes 167,845 common shares owned by Mr. Hayosh.

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

Other than compensation arrangements for our named executive officers and directors, we describe below each transaction or series of transactions, since January 1, 2019, to which we were a party or will be a party, in which:

- the amounts involved exceeded or will exceed $120,000; and
- any of our directors, executive officers or holders of more than 5% of our common shares, or any member of the immediate family of the foregoing persons, had or will have a direct or indirect material interest.

Compensation arrangements for our named executive officers and directors are described in Item 11 of this Annual Report on Form 10-K.

Equidebt Working Capital Facility

On September 1, 2017, Equidebt LLC, or Equidebt, one of our shareholders, which is controlled by Bradley J. Hayosh and Jeffrey S. Starman, entered into a Loan Agreement, or the Loan Agreement, with Mr. Solensky pursuant to which Equidebt agreed to provide Mr. Solensky with an unsecured line of credit in the amount of $5,000,000 for the purpose of enabling Mr. Solensky to exercise options to purchase up to 950,000 common shares expiring on December 21, 2018 and to purchase additional common shares from us from time to time, or the line of credit. Amounts borrowed under the line of credit were to bear interest at a rate of 14% per annum payable at maturity. In addition, Mr. Solensky was required to pay Equidebt a monthly maintenance fee of $6,250 per month payable at maturity. All amounts borrowed under the line of credit were to become due and payable on September 1, 2022. Upon the occurrence of an Event of Default (defined in the Loan Agreement to include Mr. Solensky's failure to make payments under the line of credit or his other indebtedness when due, the occurrence of certain insolvency events relating to Mr. Solensky or the occurrence of a substantial change in the existing or prospective financial condition or net worth of Mr. Solensky which Equidebt determines to be materially adverse), Equidebt had the right to declare all amounts outstanding under the line of credit immediately due and payable. We were not a party to the line of credit, which was full recourse against Mr. Solensky.

As a result of discussions with the NYSE American in connection with our application to list our common shares, we restructured and replaced the line of credit. Accordingly, on October 17, 2017, we entered into a Loan Agreement, or the Working Capital Loan Agreement, with Equidebt pursuant to which Equidebt agreed to provide us with a five-year $5,000,000 unsecured working capital line of credit, or the working capital line of credit. Amounts borrowed under the working capital line of credit bear interest at a rate of 14% per annum payable at maturity. All amounts borrowed under the line of credit become due and payable on October 17, 2022. Upon the occurrence of an Event of Default (defined in the Working Capital Loan Agreement to include our failure to make payments under the working capital line of credit or our other indebtedness when due, the occurrence of certain insolvency events relating to us, Equidebt has the right to declare all amounts outstanding under the working capital line of credit immediately due and payable. No amounts were outstanding under the Equidebt Facility at December 31, 2019.

In May 2018, we announced that we had commenced a private offering to accredited investors in the United States of up to 4,651,162 common shares at a price of $2.15 per share for aggregate gross proceeds of up to $10.0 million (the "May 2018 Private Placement"). We sold an aggregate of 1,861,627 common shares in the May 2018 Private Placement for gross proceeds of approximately $4.0 million. The 1,861,627 common shares are covered by the Company's Registration Statement on Form S-3 filed with the Commission on February 7, 2019 (File No. 333-229014). In connection with our May 2018 private placement, Equidebt LLC acquired 1,209,302 of our common shares at a price of $2.15 per share for total proceeds of approximately $2.6 million.

Wickfield Phoenix LLC Lease Agreement

Wickfield Phoenix LLC is an affiliate of Wickfield Properties, LLC, which is controlled by Bradley J. Hayosh and Jeffrey S. Starman, who beneficially own over 5% of the common shares. On February 1, 2020 we entered into a new lease with Wickfield Phoenix LLC for 16,226 square feet of office space and cancelled our existing lease with Wickfield Phoenix LLC. The new lease period is for 60 months, commencing on February 1, 2020 and ending on January 31, 2025 with a monthly rent payment of $32,452. Upon cancellation of our existing lease, we received a refund of prepaid rent in the amount of $1,002,113.

Item 14. Principal Accounting Fees and Services.

The following table represents aggregate fees billed to the Company for the years ended December 31, 2019 and 2018 by MNP LLP, the Company's independent registered public accounting firm.

	Year Ended December 31,	
	2019	**2018**
Audit Fees	$ 78,241	$ 81,224
Audit Related Fees	68,207	58,837
Tax Fees	7,469	7,553
All Other Fees	35,692	8,546
Total Fees	$ 189,609	$ 156,160

Audit Fees consist of fees for professional services and expenses relating to the audit of our annual financial statements, the audit of our internal control over financial reporting and the review of our quarterly financial information.

Audit Related Fees consist of fees for professional services and expenses reasonably relating to the audit of our annual financial statements or the review of our quarterly financial information and are not reported as Audit Fees.

Tax Fees are for tax-related services related primarily to tax consulting and tax planning.

All Other Fees consist of fees for products and services which are not included in the previous three categories. These services include review of financial data included in our registrations filed with the Securities and Exchange Commission and review of certain information in connection with our 2018 private placements.

The Audit Committee pre-approves all auditing services and any non-audit services that the independent registered public accounting firm is permitted to render under Section 10A(h) of the Exchange Act.

The Audit Committee has considered whether the provision of non-audit services is compatible with maintaining the independence of MNP LLP and has concluded that the provision of such services is compatible with maintaining the independence of our auditors. All such services were approved by the Audit Committee pursuant to Rule 2-01 of Regulation S-X under the Exchange Act to the extent that rule was applicable.

PART IV

Item 15. Exhibits, Financial Statement Schedules.

(a) The following documents are included in this Annual Report on Form 10-K

(1)-(2) Financial Statements

Index to Consolidated Financial Statements

Exhibit Number	Description
1.1	Sales Agreement, dated December 7, 2018, by and between Zomedica Pharmaceuticals Corp. and Cantor Fitzgerald & Co. (incorporated by reference to Exhibit 1.1 to the Company's Registrations Statement on Form S-3 filed with the Commission on December 20, 2018 (File No. 333-228926))
3.1	Articles of Amalgamation of Zomedica Pharmaceuticals Corp. (incorporated by reference to Exhibit 3.1 to the Company's Registration Statement on Form S-1 filed with the Commission on November 20, 2017 (File No. 333-217409))
3.2	Amended and Restated By-Law No. 1 of Zomedica Pharmaceuticals Corp. (incorporated by reference to Exhibit 3.2 to the Company's Registration Statement on Form S-1 filed with the Commission on November 20, 2017 (File No. 333-217409))
3.3	Certificate of Amendment and Registration of Restated Articles of Zomedica Pharmaceuticals Corp. (incorporated by reference to Exhibit 3.3 to the Company's Registration Statement on Form S-1 filed with the Commission on November 20, 2017 (File No. 333-217409))
3.4	Certificate of Amalgamation of Zomedica Pharmaceuticals Corp. (incorporated by reference to Exhibit 3.4 to the Company's Registration Statement on Form S-1 filed with the Commission on November 20, 2017 (File No. 333-217409))
3.5	Articles of Amendment to the Articles of Incorporation of Zomedica Pharmaceuticals Corp. (incorporated by reference to Exhibit 3.5 to the Company's Quarterly Report on Form 10-Q filed with the Commission on May 10, 2019 (File No. 001-38298))
4.1*	Description of Securities
10.1+	Executive Employment Agreement between Zomedica Pharmaceuticals Corp. and Shameze Rampertab (incorporated by reference to Exhibit 10.4 to the Company's Registration Statement on Form S-1 filed with the Commission on November 20, 2017 (File No. 333-217409))
10.2+	Amendment No. 1 to Executive Employment Agreement between Zomedica Pharmaceuticals Corp. and Shameze Rampertab (incorporated by reference to Exhibit 10.5 to the Company's Registration Statement on Form S-1 filed with the Commission on November 20, 2017 (File No. 333-217409))
10.3+	Employment Agreement between ZoMedica Pharmaceuticals Inc. and Stephanie Morley (incorporated by reference to Exhibit 10.6 to the Company's Registration Statement on Form S-1 filed with the Commission on November 20, 2017 (File No. 333-217409))

10.4+	Stock Option Plan (incorporated by reference to Exhibit 10.11 to the Company's Registration Statement on Form S-1 filed with the Commission on November 20, 2017 (File No. 333-217409))
10.5+	Executive Employment Agreement between ZoMedica Pharmaceuticals Inc. and Bruk Herbst (incorporated by reference to Exhibit 10.16 to the Company's Registration Statement on Form S-1 filed with the Commission on November 20, 2017 (File No. 333-217409))
10.6	Loan Agreement, dated October 17, 2017, by and between Zomedica Pharmaceuticals Corp. and Equidebt LLC (incorporated by reference to Exhibit 10.20 to the Company's Registration Statement on Form S-1 filed with the Commission on November 20, 2017 (File No. 333-217409))
10.7	Line of Credit Promissory Note, dated October 17, 2017, from Zomedica Pharmaceuticals Corp. in favor of Equidebt LLC (incorporated by reference to Exhibit 10.21 to the Company's Registration Statement on Form S-1 filed with the Commission on November 20, 2017 (File No. 333-217409))
10.8#	Development, Commercialization and Exclusive Distribution Agreement, dated May 10, 2018, by and between Seraph Biosciences, Inc. and Zomedica Pharmaceuticals Corp. (incorporated by reference to Exhibit 10.24 to the Company's Quarterly Report on Form 10-Q filed with the Commission on August 19, 2018 (File No. 001-38298))
10.9#	Development and supply agreement with Qorvo Biotechnologies, LLC
10.10	Form of Preferred Share Subscription Agreement for May 2019 Offering (incorporated by reference to Exhibit 10.29 to the Company's Quarterly Report on Form 10-Q filed with the Commission on May 10, 2019 (File No. 001-38298))
10.11+	Executive Employment Agreement between Zomedica Pharmaceuticals Corp. and Stephanie Morley (incorporated by reference to Exhibit 10.30 to the Company's Current Report on Form 8-K filed on September 17, 2019).
10.12+	Separation Agreement between Zomedica Pharmaceuticals Corp. and Gerald L. Solensky (incorporated by reference to Exhibit 10.1 to the Company's Filing Statement on Form 8-K filed with the Commission on December 3, 2019 (File No 001-38298))
10.13+	Cooperation Agreement between Zomedica Pharmaceuticals Corp and Gerald L. Solensky (incorporated by reference to Exhibit 10.2 to the Company's Filing Statement on Form 8-K filed with the Commission on December 3, 2019 (File No 001-38298))
10.14+	Consulting Agreement between Zomedica Pharmaceuticals Corp and Gerald L. Solensky (incorporated by reference to Exhibit 10.3 to the Company's Filing Statement on Form 8-K filed with the Commission on December 3, 2019 (File No 001-38298))
10.15*^	Amended and Restated Exclusive License and Supply Agreement, dated January 17, 2020, by and between Celsee, Inc. and Zomedica Pharmaceuticals Corp.
10.16*	Lease Agreement for 100 Phoenix Drive, Ann Arbor, 48108
10.17*	Consulting Agreement between Zomedica Pharmaceuticals Corp. and Johnny D. Powers
21.1	List of Subsidiaries (incorporated by reference to Exhibit 21.1 to the Company's Registration Statement on Form S-1 filed with the Commission on April 21, 2017 (File No. 333-217409))
23.1**	Consent of MNP LLP
31.1**	Certification of Principal Executive Officer and Principal Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
32.1**	Certification of Principal Executive Officer and Principal Financial Officer Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, 18 U.S.C. Section 1350

101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

\# The registrant has received confidential treatment for certain portions of this exhibit.
\+ Indicates management contract or compensatory plan.
* Filed herewith.
** Furnished herewith.
^ Certain identified information has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

Item 16. Form 10-K Summary.

None.

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.

ZOMEDICA PHARMACEUTICALS CORP.

By: /s/ Shameze Rampertab
Name: Shameze Rampertab
Title: Chief Financial Officer and
Interim Chief Executive Officer

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

Signature	Title	Date
/s/ Shameze Rampertab Shameze Rampertab	Interim Chief Executive Officer (principal executive officer)	February 26, 2020
/s/ Shameze Rampertab Shameze Rampertab	Chief Financial Officer, Corporate Secretary and Director (principal financial and accounting officer)	February 26, 2020
/s/ James LeBar James LeBar	Director	February 26, 2020
/s/ Rodney Williams Rodney Williams	Director	February 26, 2020
/s/ Jeffrey Rowe Jeffrey Rowe	Director	February 26, 2020
/s/ Johnny D. Powers Johnny D. Powers	Director	February 26, 2020

Zomedica Pharmaceuticals Corp.

Consolidated financial statements

For the years ended December 31, 2019 and 2018

(Expressed in United States Dollars, except as otherwise noted)

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholders of Zomedica Pharmaceuticals Corp.:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated financial statements of Zomedica Pharmaceuticals Corp. and its subsidiaries (the "Company"), which comprise the consolidated balance sheets as at December 31, 2019 and 2018, and the consolidated statements of operations and comprehensive loss, shareholders' equity and cash flows for each of the years in the two-year period ended December 31, 2019, and the related notes, comprising a summary of significant accounting policies and other explanatory information (collectively referred to as the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Company as at December 31, 2019 and 2018, and its consolidated results of operations and its consolidated cash flows for each of the years in the two-year period ended December 31, 2019, in conformity with accounting principles generally accepted in the United States of America (US GAAP).

Material Uncertainty Related to Going Concern

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

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's consolidated 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 the 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 consolidated 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 consolidated 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 consolidated 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 consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ MNP LLP

Chartered Professional Accountants
Licensed Professional Accountants

We have served as the Company's auditor since 2015.

Toronto, Canada
February 26, 2020

Zomedica Pharmaceuticals Corp.
Consolidated balance sheets
As at December 31, 2019 and 2018
(Stated in United States dollars)

	Note	December 31, 2019	December 31, 2018
Assets			
Current assets:			
Cash and cash equivalents		**$ 510,586**	$ 1,940,265
Prepaid expenses, deposits and deferred financing costs	5	**1,228,585**	1,867,034
Tax credits receivable		**67,618**	53,659
		1,806,789	3,860,958
Prepaid expenses, deposits and deferred financing costs	5	**-**	1,442,415
Property and equipment	6	**729,142**	717,088
Right-of-use asset	8	**1,103,658**	-
Intangible assets	7	**543,395**	13,058
		$ 4,182,984	$ 6,033,519
Liabilities and shareholders' equity			
Current liabilities:			
Accounts payable and accrued liabilities		**$ 2,087,525**	$ 2,376,519
		2,087,525	2,376,519
Shareholders' equity:			
Capital stock			
Series 1 preferred shares, without par value; 20 shares authorized (2018 - nil) Issued and outstanding 12 series 1 preferred shares (2018 - nil)	10	**$ 11,961,397**	$ -
Unlimited common shares without par value; Issued and outstanding 108,038,398 common shares (2018 - 97,598,898)	11	**38,566,820**	30,410,648
Common stock subscribed		**-**	4,280,000
Additional paid-in capital	12	**3,625,083**	1,240,139
Accumulated deficit		**(52,057,841)**	(32,273,787)
		2,095,459	3,657,000
		$ 4,182,984	$ 6,033,519

Signed on behalf of the Board:

"Jeff Rowe"
Chairman of the Board

" Rod Williams"
Director

Nature of operations and going concern (Note 1)
Commitments and contingencies (Note 15)

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

Zomedica Pharmaceuticals Corp.
Consolidated statements of operations and comprehensive loss
For the years ended December 31, 2019 and 2018
(Stated in United States dollars)

	Note	December 31, 2019	December 31, 2018
Expenses:			
Research and development	18	$ 10,345,291	$ 10,317,153
General and administrative	18	7,114,777	4,521,349
Professional fees	18	1,536,646	1,534,977
Amortization - right-of-use asset	7	509,381	-
Amortization - intangible asset	7	1,082	2,083
Depreciation	6	277,150	203,684
Loss from operations		19,784,327	16,579,246
Loss on fixed assets	6	1,308	69,382
Interest expense		18,338	-
Gain on settlement of liabilities		(19,737)	-
Foreign exchange gain		(182)	(941)
Loss before income taxes		19,784,054	16,647,687
Income tax expense	14	-	-
Net loss and comprehensive loss		$ 19,784,054	$ 16,647,687
Weighted average number of common shares - basic and diluted		106,297,975	93,440,341
Loss per share - basic and diluted		$ (0.19)	$ (0.18)

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

Zomedica Pharmaceuticals Corp.
Consolidated statements of shareholders' equity
For the years ended December 31, 2019 and 2018
(Stated in United States dollars)

	Note	Series 1 preferred stock		Common stock		Common stock subscribed	Additional paid-in capital	Accumulated deficit	Total
		Shares	Amount	Shares	Amount				
Balance at December 31, 2017		-	$ -	90,225,869	$18,244,659	$ -	$ 1,768,526	$ (15,626,100)	$ 4,387,085
Stock issuance for services		-	-	3,207,506	5,651,671	-	-	-	5,651,671
Stock issuance for financing, net of cost		-	-	1,861,627	3,944,336	-	-	-	3,944,336
Stock-based compensation	13	-	-	-	-	-	7,288	-	7,288
Stock issuance due to exercise of options	11,13	-	-	2,303,896	2,569,982	-	(535,675)	-	2,034,307
Common stock subscribed						4,280,000			4,280,000
Net loss		-	-	-	-	-	-	(16,647,687)	(16,647,687)
Balance at December 31, 2018		**-**	**$ -**	**97,598,898**	**$30,410,648**	**$ 4,280,000**	**$ 1,240,139**	**$ (32,273,787)**	**$ 3,657,000**
Stock issuance for services	11	-	-	707,236	792,104	-	-	-	792,104
Stock issuance for financing, net of cost	10,11	12	11,961,397	9,337,529	6,609,920	(4,280,000)	-	-	14,291,317
Stock-based compensation	13	-	-	-	-	-	2,539,092	-	2,539,092
Stock issuance due to exercise of options	11,13	-	-	394,735	754,148	-	(154,148)	-	600,000
Net loss		-	-	-	-	-	-	(19,784,054)	(19,784,054)
Balance at December 31, 2019		**12**	**$11,961,397**	**108,038,398**	**$38,566,820**	**$ -**	**$ 3,625,083**	**$ (52,057,841)**	**$ 2,095,459**

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

Zomedica Pharmaceuticals Corp.
Consolidated statements of cash flows
For the years ended December 31, 2019 and 2018
(Stated in United States dollars)

	Note	2019	2018
Cash flows used in operating activities:			
Net loss		$ (19,784,054)	$ (16,647,687)
Adjustments for			
Depreciation	6	277,150	203,684
Amortization - intangible assets	7	1,082	2,083
Amortization - right-of-use asset		509,381	-
Loss on fixed asets		1,308	69,382
Stock issued for services	11	792,104	5,651,671
Stock-based compensation	13	2,539,092	7,288
Change in non-cash operating working capital			
Trade and other receivable		(13,959)	(25,387)
Prepaid expenses		239,953	(124,230)
Deposits		92,873	(1,832,114)
Accounts payable and accrued liabilities		(288,994)	1,547,782
		(15,634,064)	(11,147,528)
Cash flows from financing activities:			
Cash proceeds from issuance of preferred shares	10	12,000,000	-
Cash proceeds from issuance of common shares	11	3,000,000	8,282,496
Cash received from stock option exercises		600,000	2,034,307
Cash paid on stock issuance costs		(708,683)	(58,160)
		14,891,317	10,258,643
Cash flows used in investing activities:			
Cash received from sale of fixed assets	6	-	9,000
Investment in intangibles	7	(531,419)	-
Investment in property and equipment	6	(155,513)	(627,997)
		(686,932)	(618,997)
Decrease in cash and cash equivalents		(1,429,679)	(1,507,882)
Cash and cash equivalents, beginning of year		1,940,265	3,448,147
Cash and cash equivalents, end of year		$ 510,586	$ 1,940,265
Supplemental cash flow information:			
Interest Paid		$ 18,338	$ -

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

1. Nature of operations and going concern

Zomedica Pharmaceuticals Corp. ("Zomedica" or the "Company") was incorporated on January 7, 2013 under the *Business Corporations Act* (Alberta) as Wise Oakwood Ventures Inc. ("WOW") and was classified as a capital pool company, as defined in Policy 2.4 of the TSX Venture Exchange. ZoMedica Pharmaceuticals Inc. was incorporated on May 14, 2015 under the Canada Business Corporations Act.

On April 21, 2016, the Company closed its qualifying transaction ("Transaction"), consisting of the acquisition of ZoMedica Pharmaceuticals Inc. ("ZoMedica") pursuant to a three-cornered amalgamation, whereby ZoMedica was amalgamated with 9674128 Canada Inc. (which was wholly-owned by WOW) and common shares and options of the Company were issued to former holders of ZoMedica securities as consideration. The amalgamated company changed its name to Zomedica Pharmaceuticals Ltd. and WOW subsequently changed its name to Zomedica Pharmaceuticals Corp. Prior to completion of the Transaction, WOW consolidated its common shares on the basis of the one post-consolidation common share for every 2.5 pre-consolidation common shares. The Transaction constituted WOW's qualifying transaction under TSX Venture Exchange Policy 2.4 – *Capital Pool Companies*. The shares of Zomedica Pharmaceuticals Corp. began trading on the TSX Venture Exchange under the new symbol "ZOM" on Monday, May 2, 2016. On June 21, 2016, the Company filed Articles of Amalgamation and vertically amalgamated with its wholly-owned subsidiary, Zomedica Pharmaceuticals Ltd.

Zomedica has one corporate subsidiary, Zomedica Pharmaceuticals, Inc., a Delaware company whose results and operations are included in these consolidated financial statements. The Company is a biopharmaceutical company targeting health and wellness solutions for the companion pet through a ground-breaking approach that focuses on the needs of the veterinarians themselves. Zomedica's head office is located at 100 Phoenix Drive, Suite 180, Ann Arbor, MI 48108 and its registered office is located at 3400, 350-7th Ave SW, Calgary, AB, T2P 3N9.

On November 20, 2017, Zomedica announced that its registration statement on Form S-1 was declared effective by the U.S. Securities and Exchange Commission (SEC) and on November 21, 2017, the Company's common shares began trading on the NYSE under the symbol "ZOM".

Going concern

The consolidated financial statements are prepared on a going concern basis, which assumes that the Company will be able to realize its assets and meet its obligations in the normal course of operations for the foreseeable future. The Company has incurred losses from operations since inception and has an accumulated deficit of $52,057,841 as at December 31, 2019 (December 31, 2018 - $32,273,787). The Company has funded its research and development ("R&D") activities principally through the issuance of securities and loans from related parties. There is no certainty that such funding will be available going forward. These conditions raise substantial doubt about its ability to continue as a going concern and realize its assets and pay its liabilities as they become due.

In order for the Company to continue as a going concern and fund any significant expansion of its operations or R&D activities, the Company will require significant additional capital. The Company's ultimate success will depend on whether its future product candidates receive the necessary regulatory approval and it is able to successfully market approved products. The Company cannot be certain that it will be able to receive regulatory approval for any of its future product candidates, or that it will reach the level of sales and revenues necessary to achieve and sustain profitability.

The availability of equity or debt financing will be affected by, among other things, the results of the Company's research and development, its ability to obtain regulatory approvals, the market acceptance of its products, the state of the capital markets generally, strategic alliance agreements, and other relevant commercial considerations. In addition, if the Company raises additional funds by issuing equity securities,

1. Nature of operations and going concern (continued)

Going concern (continued)

its then existing security holders will likely experience dilution, and the incurring of indebtedness would result in increased debt service obligations and could require the Company to agree to operating and financial covenants that would restrict its operations. Any failure on its part to raise additional funds on terms favorable to the Company or at all, may require the Company to significantly change or curtail its current or planned operations in order to conserve cash until such time, if ever, that sufficient proceeds from operations are generated, and could result in the Company not taking advantage of business opportunities. There is no certainty the Company will be able to raise the necessary funds to continue operations as a going concern. These financial statements do not reflect adjustments, if any, which would be required to the carrying amounts or classification of assets and liabilities, or the amounts of reported expenses, should the use of the going concern assumption be determined not be appropriate. Such adjustments, if any, could be material.

2. Basis of preparation

The accounting policies set out below have been applied consistently in the consolidated financial statements. The consolidated financial statements have been prepared in conformity with accounting principles generally accepted in the United States of America ("U.S. GAAP").

Basis of consolidation

These consolidated financial statements include the accounts of the Company and its wholly owned operating subsidiary, Zomedica Pharmaceuticals, Inc.

All inter-company accounts and transactions have been eliminated on consolidation.

3. Significant accounting policies

Use of estimates

The preparation of the consolidated financial statements in conformity with U.S GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenue and expenses during the period. Actual results could differ from those estimates.

Areas where significant judgment is involved in making estimates are: the determination of fair value of stock-based compensation; the useful lives and recoverability of property and equipment; and forecasting future cash flows for assessing the going concern assumption.

Basis of measurement

The consolidated financial statements have been prepared on the historical cost basis except as otherwise noted.

Functional and reporting currencies

The Company's and subsidiary's functional currency, as determined by management, is US dollars, which is also the Company's reporting currency.

3. Significant accounting policies (continued)

Cash and cash equivalents

The Company considers all highly liquid securities with an original maturity of three months or less to be cash equivalents. Cash and cash equivalents are comprised of cash on hand and cash held in trust related to share issuances. The cash held in trust is readily available to the Company and is classified as current.

The financial risks associated with these instruments are minimal and the Company has not experienced any losses from investments in these securities.

Property and equipment

Property and equipment are carried at historical cost less accumulated depreciation and any accumulated impairment losses. Maintenance and repair expenditures that do not improve or extend the life are expensed in the period incurred.

Depreciation is recognized so as to write off the cost less their residual values over their useful lives, using the straight-line method. The estimated useful lives, residual values and depreciation methods are reviewed at the end of each year, with the effect of any changes in estimate accounted for on a prospective basis.

An item of property and equipment is derecognized upon disposal or when no future economic benefits are expected to arise from the continued use of the asset. Any gain or loss arising on the disposal or retirement of an item of property, plant and equipment is determined as the difference between the sales proceeds and the carrying amount of the asset and is recognized in profit or loss.

Estimated useful lives for the principal asset categories are as follows:

Computer equipment (years)		3	
Furniture and equipment (years)	5	-	7
Laboratory equipment (years)	5	-	7
Leasehold improvements	Over shorter of estimated useful life and lease term		

Impairment of long-lived assets

Long-lived assets are reviewed for impairment when events or circumstances indicate that the carrying value of an asset may not be recoverable. For assets that are to be held and used, impairment is recognized when the sum of estimated undiscounted future cash flows associated with the asset or group of assets is less than its carrying value. If impairment exists, an adjustment is made to write the asset down to its fair value, and a loss is recorded as the difference between the carrying value and fair value.

Research and development

Research and development costs related to continued research and development programs are expensed as incurred in accordance with ASC topic 730.

3. Significant accounting policies (continued)

Share issue costs

Share issue costs are recorded as a reduction of the proceeds from the issuance of capital stock.

Foreign currency

In respect of transactions denominated in currencies other than the Company and its wholly owned operating subsidiaries' functional currencies, the monetary assets and liabilities are remeasured at the period end rates. Revenue and expenses are remeasured at rates of exchange prevailing on the transaction dates. All of the exchange gains or losses resulting from these transactions are recognized in the consolidated statements of operations and comprehensive loss.

Stock-based compensation

The Company measures the cost of equity-settled transactions by reference to the fair value of the equity instruments at the date at which they are granted if the fair value of the goods or services received by the Company cannot be reliably estimated.

The Company calculates stock-based compensation using the fair value method, under which the fair value of the options at the grant date is calculated using the Black-Scholes Option Pricing Model, and subsequently expensed over the vesting period of the option using the graded vesting method. The provisions of the Company's stock-based compensation plans do not require the Company to settle any options by transferring cash or other assets, and therefore the Company classifies the awards as equity. Stock-based compensation expense recognized during the period is based on the value of stock-based payment awards that are ultimately expected to vest.

The Company estimates forfeitures at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates.

Loss per share

Basic loss per share ("EPS") is computed by dividing the loss attributable to common shareholders by the weighted average number of common shares outstanding. Diluted EPS reflects the potential dilution that could occur from common shares issuable through the exercise or conversion of stock options, restricted stock awards, warrants and convertible securities. In certain circumstances, the conversion of options is excluded from diluted EPS if the effect of such inclusion would be anti-dilutive.

The dilutive effect of stock options is determined using the treasury stock method. Stock options to purchase common shares of the Company during fiscal 2019 and 2018 were not included in the computation of diluted EPS because the Company has incurred a loss for the year ended December 31, 2019 and 2018 and the effect would be anti-dilutive.

Comprehensive loss

The Company follows ASC topic 220. This statement establishes standards for reporting and display of comprehensive (loss) income and its components. Comprehensive loss is net loss plus certain items that are recorded directly to shareholders' equity. The Company has no other comprehensive loss items.

3. Significant accounting policies (continued)

Intangible assets

Intangible assets with finite useful lives that are acquired separately are carried at cost less accumulated amortization and accumulated impairment losses. Amortization is recognized on a straight-line basis over their estimated useful lives. The estimated useful lives and amortization methods are reviewed at the end of each year, with the effect of any changes in estimate being accounted for on a prospective basis. Intangible assets with indefinite useful lives that are acquired separately are carried at cost less accumulated impairment losses.

Computer software and website (years)	3
Trademarks (years)	15

The Company has not yet commenced the amortization of the website as it is still in development.

Fair value measurement

Under ASC topic 820, fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date (i.e., an exit price). ASC topic 820 establishes a hierarchy for inputs to valuation techniques 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 reflect assumptions 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 own assumptions about the assumptions market participants would use in pricing the asset or liability developed based on the best information available in the circumstances. There are three levels to the hierarchy based on the reliability of inputs, as follows:

- Level 1 - Observable inputs that reflect quoted prices (unadjusted) for identical assets or liabilities in active markets.
- Level 2 - Inputs other than quoted prices included in Level 1 that are observable for the asset or liability, either directly or indirectly. Level 2 inputs include quoted prices for similar assets or liabilities in active markets, or quoted prices for identical or similar assets and liabilities in markets that are not active.
- Level 3 - Unobservable inputs for the asset or liability.

The degree of judgment exercised by the Company in determining fair value is greatest for instruments categorized in Level 3.

Income taxes

The Company accounts for income taxes in accordance with Accounting Standard Codification 740, Income Taxes ("ASC 740"), on a tax jurisdictional basis. The Company files income tax returns in Canada and the province of Alberta and its subsidiary files income tax returns in the United States and various states, including the headquarters in Michigan.

Deferred tax assets and liabilities are recognized for the expected future tax consequences of temporary differences between the tax bases of assets and liabilities and their financial statement reported amounts using enacted tax rates and laws in effect in the year in which the differences are expected to reverse. A valuation allowance is provided against deferred tax assets when it is determined to be more likely than not that the deferred tax asset will not be realized.

3. Significant accounting policies (continued)

Income taxes (continued)

The Company assesses the likelihood of the financial statement effect of an uncertain tax position that should be recognized when it is more likely than not that the position will be sustained upon examination by a taxing authority based on the technical merits of the tax position, circumstances, and information available as of the reporting date. The Company is subject to examination by taxing authorities in jurisdictions such as the United States and Canada. Management does not believe that there are any uncertain tax positions that would result in an asset or liability for taxes being recognized in the accompanying consolidated financial statements. The Company recognizes tax-related interest and penalties, if any, as a component of income tax expense.

ASC 740 prescribes recognition threshold and measurement attributes for the financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return. ASC 740 also provides guidance on de-recognition, classification, interest and penalties, accounting in periods, disclosure and transition. At December 31, 2019 and 2018, the Company has not taken any tax positions that would require disclosure under ASC 740.

Segmented reporting

The Company currently operates as a single segment. Its principal business relates to the discovery, development and commercialization of innovative pharmaceuticals for the companion pet.

Recently adopted accounting pronouncements

In February 2016, the FASB issued new guidance, ASU No. 2016-02, Leases (Topic 842). The new standard establishes a right-of-use model ("ROU") that requires a lessee to recognize a ROU asset and lease liability on the balance sheet for all leases with a term longer than 12 months. Leases will be classified as finance or operating, with classification affecting the pattern and classification of expense recognition in the income statement. Additional qualitative and quantitative disclosures are also required by the new guidance.

A modified retrospective transition approach is required, applying the new standard to all leases existing at the date of initial application. The Company adopted the new standard with an initial application date of January 1, 2019 and used the effective date as its date of initial application. Consequently, financial information was not updated, and the disclosures required under the new standard were not provided for dates and periods before January 1, 2019.

The new standard provides a number of optional practical expedients in transition. The Company has elected the 'package of practical expedients', which permits the Company not to reassess under the new standard prior conclusions about lease identification, lease classification and initial direct costs. The Company has not elected the use-of-hindsight or the practical expedient pertaining to land easements; the latter not being applicable to the Company.

3. Significant accounting policies (continued)

Recently adopted accounting pronouncements (continued)

On August 29, 2018, the FASB issued ASU 2018-15, which amends ASC 350-40 to address a customer's accounting for implementation costs incurred in a cloud computing arrangement (CCA) that is a service contract. ASU 2018-15 aligns the accounting for costs incurred to implement a CCA that is a service arrangement with the guidance on capitalizing costs associated with developing or obtaining internal-use software. Specifically, the ASU amends ASC 350 to include in its scope implementation costs of a CCA that is a service contract and clarifies that a customer should apply ASC 350-40 to determine which implementation costs should be capitalized in a CCA that is considered a service contract. The amendments in this update are effective for public business entities for fiscal years beginning after December 15, 2019. Early adoption is permitted. The Company chose to early adopt this guidance on July 1, 2019 using the prospective transition method.

4. Critical accounting judgments and key sources of estimation uncertainty

The preparation of financial statements requires management to make judgments, estimates and assumptions that affect the application of policies and reported amounts of assets and liabilities, and revenue and expenses. The estimates and associated assumptions are based on historical experience and various other factors that are believed to be reasonable under the circumstances, the results of which form the basis of making the judgments about carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates.

The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimate is revised if the revision affects only that period or in the period of the revision and further periods if the review affects both current and future periods.

Critical areas of estimation and judgements in applying accounting policies include the following:

Going concern

These consolidated financial statements have been prepared in accordance with U.S GAAP on a going concern basis, which assumes the realization of assets and discharge of liabilities in the normal course of business within the foreseeable future. Management uses judgment in determining assumptions for cash flow projections, such as anticipated financing, anticipated sales and future commitments to assess the Company's ability to continue as a going concern. A critical judgment is that the Company continues to raise funds going forward and satisfy their obligations as they become due.

Useful lives and recoverability of property and equipment

As described in Note 3 above, the Company reviews the estimated useful lives of property and equipment with definite useful lives at the end of each year and assesses whether the useful lives of certain items should be shortened or extended, due to various factors including technology, competition and revised service offerings. During the year ended December 31, 2019 and 2018, the Company was not required to adjust the useful lives of any assets based on the factors described above. Long-lived assets are reviewed for impairment when events or circumstances indicate that the carrying value of an asset may not be recoverable. During the year ended December 31, 2019 and 2018, The Company did not identify any events or circumstances to indicate that the carrying value of property and equipment was not recoverable.

(Stated in United States dollars)

4. Critical accounting judgments and key sources of estimation uncertainty (continued)

Stock-based payments

The Company estimates the fair value of convertible securities such as options using the Black-Scholes option-pricing model which requires significant estimation around assumptions and inputs such as expected life, expected volatility, estimated forfeiture rates and expected dividends.

5. Prepaid expenses, deposits and deferred financing costs

		2019		2018
Prepaid rent (i)	$	-	$	1,613,038
Deposits (ii)		1,033,231		1,596,104
Prepaid marketing (iii)		19,829		37,465
Prepaid insurance (iii)		110,636		33,372
Other (iv)		64,889		29,470
Total	**$**	**1,228,585**	**$**	**3,309,449**

(i) On July 31, 2018 the Company entered into an amended lease agreement with Wickfield Phoenix, LLC for an additional 18,640 square feet of office space. The Company prepaid the full outstanding balance of $1,269,073. As of January 1, 2019, the balance of the prepaid rent, inclusive of the original and amended lease amounts was $1,613,038. In accordance with the Company's adoption of ASC 842 on January 1, 2019, this amount was reclassified as a right-of-use asset in the consolidated balance sheet. As of December 31, 2018, the Company classified $509,380 as a current asset in the consolidated balance sheet.;

(ii) Deposits include payments made to vendors in advance and are primarily associated with research activity, design fees for additional office space and equipment purchases. As of December 31, 2019, the Company classified all amounts as a current asset. As of December 31, 2018, $1,257,347 was classified as a current asset in the consolidated balance sheet;

(iii) As of December 31, 2019, and 2018, all amounts were classified as a current asset in the consolidated balance sheet;

(iv) Other is comprised of deferred financing costs, subscription payments and software licensing. As of December 31, 2019, and 2018, the Company classified all amounts as a current asset in the consolidated balance sheet.

(Stated in United States dollars)

6. Property and equipment

	Computer equipment	Furniture and equipment	Laboratory equipment	Leasehold improvements	Total
Cost					
Balance at December 31, 2017	$ 151,155	$ 76,058	$ 245,729	$ 36,957	$ 509,899
Additions	18,847	105,821	246,375	256,954	627,997
Disposals	-	-	(139,467)	(10,936)	(150,403)
Balance at December 31, 2018	170,002	181,879	352,637	282,975	987,493
Additions	218,076	3,415	3,350	65,672	290,513
Disposals	(2,210)	-	-	-	(2,210)
Balance at December 31, 2019	385,868	185,294	355,987	348,647	1,275,796
Accumulated depreciation					
Balance at December 31, 2017	42,802	11,845	74,875	9,220	138,742
Depreciation	62,116	17,740	86,368	37,460	203,684
Disposals	-	-	(61,547)	(10,474)	(72,021)
Balance at December 31, 2018	104,918	29,585	99,696	36,206	270,405
Depreciation	88,417	26,617	68,519	93,597	277,150
Disposals	(901)	-	-	-	(901)
Balance at December 31, 2018	192,434	56,202	168,215	129,803	546,653
Net book value as at:					
December 31, 2018	$ 65,084	$ 152,294	$ 252,941	$ 246,769	$ 717,088
December 31, 2019	$ 193,434	$ 129,092	$ 187,772	$ 218,844	$ 729,142

In August 2018, the Company relocated part of its operations to a new building. Due to the relocation, leasehold improvements with a net book value of $462 were written off and equipment with a net book value of $77,920 was sold for $9,000. The net loss on disposal recorded was $69,382.

In February 2019, the Company reclassified $135,000 out of prepaid assets into property and equipment.

In May 2019, the Company disposed of assets with a net book value of $1,308. A net loss on disposal was recorded in the consolidated statement of loss and comprehensive loss.

(Stated in United States dollars)

7. Intangible assets

	Computer software	Trademarks	Website	Total intangible assets
Cost				
Balance at December 31, 2017	$ 5,143	$ 16,236	$ -	$ 21,379
Additions	-	-	-	-
Balance at December 31, 2018	5,143	16,236	-	21,379
Additions	-	-	531,419	531,419
Balance at December 31, 2019	5,143	16,236	531,419	552,798
Accumulated amortization				
Balance at December 31, 2017	4,143	2,095	-	6,238
Amortization	1,000	1,083	-	2,083
Balance at December 31, 2018	5,143	3,178	-	8,321
Amortization	-	1,082	-	1,082
Balance at December 31, 2019	5,143	4,260	-	9,403
Net book value as at:				
December 31, 2018	$ -	$ 13,058	$ -	$ 13,058
December 31, 2019	$ -	$ 11,975	$ 531,419	$ 543,395

The estimated future amortization of intangible is as follows:

2020	$ 178,229
2021	178,229
2022	178,229
2023	1,089
2024	1,089
Total	**$ 536,865**

8. Leases

As discussed in Note 3, the Company adopted ASC 842 with an initial application date of January 1, 2019. The Company is party to two lease agreements under which it rents office and laboratory space. The rent for both of these leases was prepaid upon inception and therefore at adoption the Company reclassified its prepaid lease balances of $1,613,039 to a right-of-use asset.

The Company amortizes the asset on a straight-line basis over the remaining life of the lease and records the expense in the consolidated statement of operations and comprehensive loss. During the year ended 2019 and 2018, the Company recognized $509,381 and nil, respectively, in amortization expense in the consolidated statements of operations and comprehensive loss.

9. Loan Arrangements

On October 18, 2017, the Company entered into a loan arrangement with a shareholder of the Company, pursuant to which such shareholder has agreed to provide a loan facility to the Company, whereby the Company may borrow up to $5,000,000, with the proceeds to be used for working capital and general corporate purposes. The term of the loan facility is five (5) years, with principal and interest payments being due only at the time of maturity. Under the loan agreement, the Company may borrow in one or more advances, provided however that a minimum amount of $250,000 must be borrowed at any one time and not more than two advances may occur per month. Interest shall accrue at a rate of fourteen percent (14%) per annum, payable upon maturity. As of December 31, 2019, no amounts have been borrowed.

(Stated in United States dollars)

10. Preferred stock

The Company is authorized to issue up to 20 shares of our Series 1 Preferred Shares, all without par value, and each having a stated value of $1,000,000. The Series 1 Preferred Shares do not have voting rights except to the extent required by applicable law and are not convertible into the Company's common shares. Holders of the Series 1 Preferred Shares will not be entitled to dividends but, in lieu thereof, will receive Net Sales Returns ("Net Sales Returns" is defined as annual payments equal to 9 percent of Net Sales) until such time as the holders have received total Net Sales Returns equal to 9 times the aggregate stated value of the outstanding Series 1 Preferred Shares. The Company will have the right to redeem the outstanding Series 1 Preferred Shares at any time at a redemption price equal to 9 times the aggregate stated value of the Series 1 Preferred Shares outstanding less the aggregate amount of the Net Sales Returns paid (the "Redemption Amount").

Upon any dissolution, liquidation or winding up, whether voluntary or involuntary, holders of Series 1 Preferred Shares will be entitled to a liquidation preference equal to the stated value of the Series 1 Preferred Shares less the Net Sales Returns paid on the Series 1 Preferred Shares.

In the event of a fundamental transaction (defined to include an amalgamation, merger or other business combination transaction involving our company in which our shareholders do not have the right to cast more than 50% of the votes that may be cast for the election of directors, or a sale, lease or other disposition of the properties and/or assets of our company as an entirety or substantially as an entirety to a third party), the holders of the Series 1 Preferred Shares will be entitled to receive consideration for their Series 1 Preferred Shares equal to a multiple of the stated value of the Series 1 Preferred Shares ranging from 5.0 to 9.0 depending on the timing of the fundamental transaction, subject to a cap equal to the redemption amount. The Company has assessed the likelihood of any Net Sales Payments to the Series 1 Preferred shareholders to be remote.

Issued and outstanding preferred stock:

	Number of preferred stock		Preferred stock amount
Balance at December 31, 2018	-	$	-
Stock issued from financing (i)	12		11,961,397
Balance at December 31, 2019	12	$	11,961,397

(i) On May 9, 2019, the Company entered into subscription agreements to sell $12,000,000 of its Series 1 Preferred Shares to an accredited investor in a private placement at a purchase price of $1,000,000 per Series 1 Preferred Share; $5,000,000 of the purchase price was paid on May 9, 2019 and the remaining $7,000,000 was paid on June 7, 2019. The Company recorded $38,603 of share issuance costs as an offset to preferred stock in the year ended December 31, 2019.

(Stated in United States dollars)

11. Common stock

The Company is authorized to issue an unlimited number of common shares, all without par value.

Issued and outstanding common stock:

	Number of common stock		Common stock amount
Balance at December 31, 2017	90,225,869	$	18,244,659
Stock issuance for services (i and iii)	3,207,506		5,651,671
Stock issued from financing, net of costs (ii)	1,861,627		3,944,336
Stock issuance due to exercise of options	2,303,896		2,569,982
Balance at December 31, 2018	97,598,898	$	30,410,648
Stock issuance for services (iv and v)	707,236		792,104
Stock issuance from financing (vi and vii)	9,337,529		6,609,920
Stock issuance due to exercise of options	394,735		754,148
Balance at December 31, 2019	108,038,398	$	38,566,820

i) On May 10, 2018, the Company issued 641,717 common shares in accordance with a Development, Commercialization and Exclusive Distribution Agreement with a third party and recognized $1,238,513 as a research and development expense in the consolidated statements of operations and comprehensive loss.

ii) On May 15, 2018, the Company issued 255,815 common shares for gross proceeds of $550,000. On June 28, 2018, the Company issued 1,605,812 common shares for gross proceeds of $3,452,496. The Company recorded $56,160 of share issuance costs as an offset to capital stock.

iii) On November 26, 2018, the Company issued 2,565,789 common shares in accordance with a Development and Supply Agreement with a third party and recognized $4,413,158 as a research and development expense in the consolidated statements of operations and comprehensive loss.

iv) On January 14, 2019, the Company settled $75,000 of amounts due to a vendor by issuing 49,342 common shares valued at $55,263 at the date of issuance. The Company recorded a $19,737 gain on the settlement of liabilities in the consolidated statement of loss and comprehensive loss;

v) On January 14, 2019, the Company issued 657,894 common shares in satisfaction of $1,000,000 of all remaining milestones under a License and Supply Agreement with a third party. The Company recognized $736,841 as research and development expense, based on the value of the common stock on the date of issuance;

vi) On January 14, 2019, the Company completed a non-brokered private placement, and issued 2,815,789 common shares. Gross proceeds of $4,280,000 were received prior to December 31, 2018.The Company recorded $465 of share issuance costs as an offset to common stock;

vii) On March 28, 2019, the Company completed an underwritten public offering of its common stock pursuant to which the Company sold an aggregate 6,521,740 common shares for gross proceeds of $3,000,000. The Company recorded $669,615 of share issuance costs as an offset to common stock in the year ended December 31, 2019.

(Stated in United States dollars)

12. Common stock subscribed

During December 2018, the Company offered its common shares in a private offering of 6,578,947 common shares at a price of $1.52 per share, for aggregate gross proceeds of up to $10,000,000. The Company received subscription funds in the aggregate amount of $4,280,000 from investors. These common shares were not issued until after December 31, 2018.

13. Stock-based compensation

During the year ended December 31, 2019, the Company issued 7,495,000 stock options, each option entitling the holder to purchase on common share of the Company. During the year ended December 31, 2019, 394,735 options were exercised.

During the year ended December 31, 2018, the Company issued nil stock options. During the year ended December 31, 2018, an aggregate of 2,303,896 options were exercised.

The continuity of stock options are as follows:

	Number of Options	Weighted Avg Exercise Price
Balance at December 31, 2017	8,080,000	$ 1.21
Stock options exercised January 8, 2018	(124,000)	0.20
Stock options exercised January 26, 2018	(100,000)	0.20
Stock options exercised March 8, 2018	(50,000)	0.19
Stock options exercised March 13, 2018	(176,000)	0.19
Stock options exercised March 22, 2018	(50,000)	0.19
Stock options exercised March 26, 2018	(240,000)	0.19
Stock options exercised March 28, 2018	(325,000)	0.19
Stock options exercised March 29, 2018	(562,996)	2.13
Stock options exercised April 20, 2018	(154,000)	0.20
Stock options expired April 21, 2018	(1,946,000)	0.20
Stock options expired June 9, 2018	(100,000)	1.16
Stock options expired June 21, 2018	(400,000)	1.13
Stock options expired August 14, 2018	(75,000)	2.10
Stock options exercised September 27, 2018	(85,000)	1.45
Stock options expired September 28, 2018	(5,000)	2.12
Stock options exercised on October 11, 2018	(200,000)	1.15
Stock options expired November 12, 2018	(250,000)	2.08
Stock options expired November 12, 2018	(600,000)	1.14
Stock options exercised on November 29, 2018	(175,000)	1.13
Stock options exercised on December 20, 2018	(26,900)	1.11
Stock options expired December 21, 2018	(1,978,100)	1.11
Stock options exercised on December 21, 2018	(35,000)	1.11
Balance at December 31, 2018	422,004	$ 1.95
Stock options granted January 10, 2019	5,995,000	1.52
Stock options expired February 24, 2019	(35,000)	1.15
Stock options exercised March 8, 2019	(164,473)	1.52
Stock options exercised March 15, 2019	(164,473)	1.52
Stock options exercised March 29, 2019	(65,789)	1.52
Stock options expired May 23, 2019	(10,000)	1.52
Stock options expired June 16, 2019	(40,000)	1.52
Stock options cancelled July 14, 2019	(5,000)	1.52
Stock options cancelled August 13, 2019	(5,000)	1.52
Stock options expired August 14, 2019	(387,004)	2.11
Stock options granted August 19, 2019	500,000	0.26
Stock options granted August 19, 2019	100,000	0.35
Stock options granted August 19, 2019	100,000	0.45
Stock options granted August 19, 2019	100,000	0.55
Stock options granted August 19, 2019	100,000	0.65
Stock options granted August 19, 2019	100,000	0.75
Stock options granted September 16, 2019	500,000	0.43
Balance at December 31, 2019	7,040,265	$ 1.28

(Stated in United States dollars)

13. Stock-based compensation (continued)

As at December 31, 2018, details of the issued and outstanding stock options are as follows:

Grant date	Exercise price (CDN$)	Number of options issued and outstanding	Number of vested options outstanding	Weighted Avg Remaining Life (years)
February 24, 2017	$ 1.50	35,000	35,000	0.15
August 14, 2017	$ 2.75	387,004	387,004	0.62
Balance at December 31, 2018		422,004	422,004	

As at December 31, 2019, details of the issued and outstanding stock options are as follows:

Grant date	Exercise price (USD$)	Number of options	Number of vested options	Weighted Avg Remaining Life (years)
January 10, 2019	$ 1.52	5,540,265	5,540,265	1.03
August 19, 2019	0.26	500,000	500,000	1.64
August 19, 2019	0.35	100,000	100,000	1.64
August 19, 2019	0.45	100,000	100,000	1.64
August 19, 2019	0.55	100,000	100,000	1.64
August 19, 2019	0.65	100,000	100,000	1.64
August 19, 2019	0.75	100,000	100,000	1.64
September 16, 2019	0.43	500,000	500,000	1.71
Balance at December 31, 2019		7,040,265	7,040,265	

The Company granted 7,495,000 stock options during the year ended December 2019 (December 31, 2018 - $nil).. The fair value of options granted during the year ended December 31, 2019 was estimated using the Black-Scholes option pricing model to determine the fair value of options granted using the following assumptions:

	January 10, 2019	August 19, 2019	September 16, 2019
Volatility	68%	87%	89%
Risk-free interest rate	2.56%	1.48%	1.74%
Expected life (years)	2	2	2
Dividend yield	0	0	0
Common share price	$1.23	$ 0.26	$0.42
Strike price	$1.52	$ 0.26 - $ 0.75	$0.43
Forfeiture rate	nil	nil	nil

The Company recorded $2,539,092 stock-based compensation for the year ended December 31, 2019 and $7,288 of stock-based compensation for the year ended December 31, 2018. During the year ended December 31, 2019, the Company recorded the cash receipt of $600,000 as common stock and reclassified $154,148 of stock-based compensation to common stock due to the exercise of 394,735 options disclosed above. During the year ended December 31, 2018, the Company recorded the cash receipt of $2,034,307 as common stock and reclassified $535,675 of stock-based compensation to common stock due to the exercise of 2,303,896 options disclosed above.

(Stated in United States dollars)

14. Income taxes

The reconciliation of the combined Canadian federal and provincial statutory income tax rate of 27% (2018- 27%) to the effective tax rate is as follows:

	For the year ended December 31, 2019	For the year ended December 31, 2018
Loss before income taxes	$ (19,784,054)	$ (16,647,687)
Expected income tax expense (recovery)	(5,341,690)	(4,494,880)
Difference in foreign tax rates	54,660	53,280
Tax rate changes and other adjustments	-	(850,310)
Stock based compensation and non-deductible expenses	771,640	(312,810)
Prior Period Adjustments	261,160	-
Share issuance costs recorded in equity	(198,930)	-
Change in valuation allowance	4,453,160	5,604,720
Total income tax expense	$ -	$ -

The following table summarizes the components of deferred tax:

Deferred Tax Assets	**2019**	**2018**
Intangible assets - licenses	$ 3,622,890	$ 2,105,660
Share issuance costs	301,180	171,590
Reserves	20,410	18,650
Non-capital losses carried forward - Canada	5,498,910	3,605,540
Net operating losses carried forward - US	4,154,520	2,965,930
Investment Tax Credits	27,330	192,760
Operating leases	6,560	-
Donations	350	-
Total deferred tax assets	$ 13,632,310	$ 9,060,130
Deferred Tax Liabilities		
Property and equipment	$ (231,240)	$ (112,220)
Total deferred tax liabilities	$ (231,240)	$ (112,220)
Valuation allowance	$ 13,401,070	$ 8,947,910
Net deferred tax asset	$ -	$ -

No deferred tax asset has been recognized, as it is not more likely than not to be realized. Consequently, a valuation allowance has been applied against the net deferred tax asset. The Canadian non-capital loss carry forwards expire as noted in the table below.

	2036	$ 3,758,060
	2037	4,278,990
	2038	5,421,880
	2039	6,907,680
Total		$ 20,366,610

(Stated in United States dollars)

14. Income taxes (continued)

The Company's US non-operating income tax losses expire as follows:

2035	$	856,301
2036		1,484,636
2037		3,831,764
indefinitely		9,967,643
Total	$	16,140,344

15. Commitments and contingencies

On October 1, 2018 the Company entered into a one-year rental agreement. The Company elected not to account for these leases in accordance with ASC 842 as they are for a one-year term. The total future annual lease payments for the premises are as follows:

2020	$	33,280
Total	$	33,280

On November 26, 2018, the Company entered into a Development and Supply Agreement and as part of this agreement, the Company has contingent future outflows as follows:

- 1st payment: At the later of the achievement of a future milestone event or March 15, 2019 - $2,000,000 in cash
- 2nd payment: At the later of the achievement of a future milestone event or March 15, 2019, can decide to receive payment as follows:
  - $3,000,000 in cash or
  - $1,500,000 in cash and $1.95 million in equity
- 3rd payment: At the later of the achievement of a future milestone event or September 12, 2019, can decide to receive payment as follows:
  - $3,000,000 in cash or
  - $1,500,000 in cash and $1.95 million in equity
- 4th payment: At the later of the achievement of a future milestone or February 19, 2020 - $2,000,000 in cash.

15. Commitments and contingencies (continued)

As at December 31, 2019, the first and second milestone payments have been made. Neither the 3rd nor 4th events related to the above agreement have been met as of December 31, 2019.

On May 10, 2018, the Company entered into a Development, Commercialization and Exclusive Distribution Agreement. As part of the agreement, the Company is required to make the following future milestone payments:

- $3,500,000 in cash payment upon the achievement of future development milestones
- $3,500,000 in equity based on the number of the Company's common stock determined by dividing the amount due by the volume-weighted average price of the Company's common stock on the NYSE American exchange over the 10 trading days prior to the achievement of the milestone event.

As at December 31, 2019, none of the future development milestones related to the above agreement have been met.

From time to time, the Company may be exposed to claims and legal actions in the normal course of business. As at September 30, 2019, and continuing as at November 12, 2019, the Company is not aware of any pending or threatened material litigation claims against the Company, other than as described below.

On November 1, 2019, Heska Corporation ("Heska") filed a complaint for damages and injunctive relief (the "Complaint") in the United States District Court for the Middle District of North Carolina, Case 1:19-cv-01108-LCB-JLW, against Qorvo US, Inc. ("Qorvo US"), Qorvo Biotechnologies, LLC ("Qorvo Biotech" and, together with Qorvo US, "Qorvo") and the Company (collectively with Qorvo, the "Defendants"). The Complaint alleges, among other things, that the Defendants improperly obtained Heska's trade secrets and confidential information and/or conspired to use improper means to misappropriate Heska's trade secrets related to an instrument and related consumable products for performing immunoassay analysis of biomarkers and other substances. The Complaint seeks compensatory and exemplary damages, as well as preliminary and permanent injunctive relief to prevent the Defendants from commercializing the Company's TRUFORMA^{TM} diagnostic instrument. On January 21, 2020, the Defendants filed a motion seeking dismissal of the Complaint. On February 11, 2020, Heska filed its response to the Defendants' motion to dismiss to which the Defendants responded on February 25, 2020. The Company believes that the allegations in the Complaint have no merit and will not have a material adverse effect on the Company's business, results of operations or financial condition, and the Company reaffirms its intention to commence the commercialization of its TRUFORMA^{TM} platform by the end of 2020.

Under the terms of the Development and Supply Agreement, dated November 26, 2018, by and between Qorvo Biotech and the Company (the "Qorvo Agreement"), Qorvo Biotech agreed to indemnify the Company and certain related parties against claims alleging infringement or misappropriation of third-party intellectual property rights, subject to certain limitations and exceptions. Qorvo Biotech has notified the Company that Qorvo Biotech has assumed the defense of the Complaint and will indemnify the Company for losses arising from the Complaint in accordance with the terms of the Qorvo Agreement. Qorvo Biotech has further advised the Company that it intends to mount a vigorous defense to the claims in the Complaint, and that it believes the allegations contained in the Complaint are without merit.

16. Financial instruments

(a) Fair values

The Company follows ASC topic 820, "Fair Value Measurements" which defines fair value, establishes a framework for measuring fair value, and expands disclosures about fair value measurements. The provisions of ASC topic 820 apply to other accounting pronouncements that require or permit fair value measurements. ASC topic 820 defines fair value as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants at the measurement date; and establishes a three level hierarchy for fair value measurements based upon the transparency of inputs to the valuation of an asset or liability as of the measurement date. Inputs refers broadly to the assumptions that market participants would use in pricing the asset or liability, including assumptions about risk. To increase consistency and comparability in fair value measurements and related disclosures, the fair value hierarchy prioritizes the inputs to valuation techniques used to measure fair value into three broad levels. The three levels of the hierarchy are defined as follows:

Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities.

Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly for substantially the full term of the financial instrument.

Level 3 inputs are unobservable inputs for asset or liabilities.

The categorization within the valuation hierarchy is based upon the lowest level of input that is significant to the fair value measurement.

(i) The Company calculates expected volatility based on historical volatility of the Company's stock price. When there is insufficient data available, The Company uses a peer group that is publicly traded to calculate expected volatility.

An increase/decrease in the volatility would have resulted in an increase/decrease in the fair value of the options.

The carrying values of cash, trade and other receivable, accounts payable and accrued liabilities and shareholder loans payable approximates their fair values because of the short-term nature of these instruments.

(b) Interest rate and credit risk

Interest rate risk is the risk that the value of a financial instrument might be adversely affected by a change in interest rates. The Company does not believe that the results of operations or cash flows would be affected to any significant degree by a sudden change in market interest rates, relative to interest rates on cash and cash equivalents due to the short-term nature of these balances.

The Company is also exposed to credit risk at period end from the carrying value of its cash. The Company manages this risk by maintaining bank accounts with a Canadian Chartered Bank. The Company's cash is not subject to any external restrictions.

(c) *Foreign exchange risk*

The Company has balances in Canadian dollars that give rise to exposure to foreign exchange ("FX") risk relating to the impact of translating certain non-U.S. dollar balance sheet accounts as these statements are presented in U.S. dollars. A strengthening U.S. dollar will lead to a FX loss while a weakening U.S. dollar will lead to a FX gain. For each Canadian dollar balance of $1.0 million, a +/- 10% movement in the Canadian currency held by the Company versus the U.S. dollar would affect the Company's loss and other comprehensive loss by $0.1 million.

(Stated in United States dollars)

16. Financial instruments (continued)

(d) Liquidity risk

Liquidity risk is the risk that the Company will encounter difficulty raising liquid funds to meet commitments as they fall due. In meeting its liquidity requirements, the Company closely monitors its forecasted cash requirements with expected cash drawdown.

The following are the contractual maturities of the undiscounted cash flows of financial liabilities as at December 31, 2019 and 2018:

					December 31, 2019	
	Less than 3 months	3 to 6 months	6 to 9 months	9 months 1 year	Greater than 1 year	Total
	$	$	$	$	$	$
Third parties						
Accounts payable and accrued liabilities	2,087,525	-	-	-	-	2,087,525
Related parties						
Shareholder's loan payable	-	-	-	-	-	-
	2,087,525	-	-	-	-	2,087,525

					December 31, 2018	
	Less than 3 months	3 to 6 months	6 to 9 months	9 months 1 year	Greater than 1 year	Total
	$	$	$	$	$	$
Third parties						
Accounts payable and accrued liabilities	2,376,519	-	-	-	-	2,376,519
Related parties						
Shareholder's loan payable	-	-	-	-	-	-
	2,376,519	-	-	-	-	2,376,519

17. Segmented information

The Company's operations comprise a single reportable segment engaged in the research, development targeting health and wellness solutions for the companion pet. As the operations comprise a single reportable segment, amounts disclosed in the financial statements for loss for the period, depreciation and total assets also represent segmented amounts. In addition, all of the Company's long-lived assets are in the United States of America ("US").

		December 31, 2019	**December 31, 2018**
		$	$
Total assets			
	Canada	**249,929**	383,567
	US	**3,933,055**	5,649,952
Total US property and equipment		**729,142**	717,088
Total US right-of-use asset		**1,103,658**	-
		1,832,800	717,088

(Stated in United States dollars)

18. Schedule of expenses

	For the year ended December 31, 2019		
	Research and Development	Professional Fees	General and Administrative
Salaries, bonus and benefits	$ 789,848	$ -	$ 5,447,455
Contracted expenditures	2,843,998	-	-
Marketing and investor relations	2,303	-	471,887
Travel and accommodation	37,181	-	435,530
Insurance	96,623	-	259,791
License fees	5,936,841	-	-
Office	50,599	-	327,258
Consultants	251,096	1,536,646	-
Regulatory	127,190	-	106,230
Rent	-	-	32,473
Supplies	209,612	-	34,153
Total	$ 10,345,291	$ 1,536,646	$ 7,114,777

	For the year ended December 31, 2018		
	Research and Development	Professional Fees	General and Administrative
Salaries, bonus and benefits	$ 692,913	$ -	$ 2,593,686
Contracted expenditures	1,745,011	-	-
Marketing and investor relations	-	-	225,890
Travel and accommodation	21,251	-	266,147
Insurance	82,469	-	307,544
License fees	7,151,671	-	-
Office	69,299	-	365,395
Consultants	214,013	1,534,977	-
Regulatory	76,210	-	435,896
Rent	45,081	-	295,752
Supplies	219,235	-	31,039
Total	$ 10,317,153	$ 1,534,977	$ 4,521,349

19. Capital risk management

The capital of the Company includes equity, which is comprised of issued common capital stock, common stock subscribed, additional paid-in capital, and accumulated deficit. The Company's objective when managing its capital is to safeguard the ability to continue as a going concern in order to provide returns for its shareholders, and other stakeholders and to maintain a strong capital base to support the Company's core activities.

(Stated in United States dollars)

20. Loss per share

	For the year ended December 31, 2019	For the year ended December 31, 2018
Numerator		
Net loss for the year	$ 19,784,054	$ 16,647,687
Denominator		
Weighted average shares - basic	106,297,975	93,440,341
Stock options	-	-
Denominator for diluted loss per share	106,297,975	93,440,341
Loss per share - basic and diluted	$ (0.19)	$ (0.18)

For the above-mentioned periods, the Company had securities outstanding which could potentially dilute basic earnings per share in the future but were excluded from the computation of diluted loss per share in the periods presented, as their effect would have been anti-dilutive. The Company excluded 7,040,265 from the calculation of diluted earnings per share as their effect would have been anti-dilutive.

21. Related party transactions and key management compensation

As of the year ended December 31, 2019, the Company had outstanding severance payments due to former Chairman of the board and former CEO, Gerald Solensky, Jr. for $169,143. As of the year ended December 31, 2018, the Company had nil related party balances outstanding.

Key management personnel are comprised of the Company's directors and executive officers. In addition to their salaries, key management personnel also receive share-based compensation. Key management personnel compensation is as follows:

	For the year ended December 31, 2019	For the year ended December 31, 2018
Salaries and benefits, including bonuses	$ 1,463,830	$ 1,428,036
Stock-based compensation	1,842,313	-
Total	$ 3,306,143	$ 1,428,036

22. Subsequent events

On February 14, 2020 the Company completed a registered direct offering of 20,833,334 of its common shares at a purchase price of $0.12 per share, for gross proceeds of $2,500,000. In addition, in a concurrent private placement, the Company issued to the investors warrants to purchase up to 20,833,334 common shares, which represent 100% of the number of common shares issued in the registered direct offering, with an exercise price $0.20 per share and a five-year exercise period commencing six (6) months of the issuance date. The gross proceeds to from the offering, before deducting the placement agent's fees and other estimated offering expenses payable by the Company, are $2,500,000.

Exhibit 4.1

DESCRIPTION OF THE REGISTRANT'S SECURITIES REGISTERED PURSUANT TO SECTION 12 OF THE SECURITIES EXCHANGE ACT OF 1934

The following is a summary of the rights of our common shares and preferred shares as set forth in our Articles of Amalgamation, as amended, and By-laws, each of which are incorporated by reference as an exhibit to the Annual Report on Form 10-K to which this Exhibit 4.1 is a part. Additionally, we have provided a summary of the "advance notice provisions" contained in our By-laws. This summary does not purport to be complete and is qualified in its entirety by the full text of our aforementioned constating documents and by applicable law.

Our authorized capital consists of an unlimited number of common shares (without nominal or par value) and an unlimited number of preferred shares (without nominal or par value), which are issuable in series.

The additional shares of our authorized stock available for issuance may be issued at times and under circumstances so as to have a dilutive effect on earnings per share and on the equity ownership of the holders of our common shares. The ability of our board of directors to issue additional shares without shareholder approval could enhance the board's ability to negotiate on behalf of the shareholders in a take-over situation but could also be used by the board of directors to make a change-in-control more difficult, thereby denying shareholders the potential to sell their shares at a premium and entrenching current management.

Description of Common Shares

Dividend Rights

Subject to any rights, privileges, restrictions and conditions which may apply to any series of preferred shares that are issued, holders of our common shares are entitled to receive dividends, if, as and when declared by the board of directors.

Voting Rights

The holders of the common shares are entitled to receive notice of and attend any meeting of our shareholders and are entitled to cast one vote for each common share held.

No Preemptive, Conversion or Redemption Rights

Holders of our common shares are not entitled to preemptive rights and our common shares are not subject to conversion or redemption.

Rights upon Liquidation

On the winding-up, liquidation or dissolution of our company or upon the happening of any other event giving rise to a distribution of our assets, other than by way of dividend amongst our shareholders, for the purposes of winding-up our affairs, subject to any rights, privileges, restrictions and conditions which may have been determined by the directors to attach to any series of preferred shares, the holders of all common shares shall be entitled to participate pari passu.

Action Necessary to Change the Rights of Holders of our Shares

Under the *Business Corporations Act* (Alberta) ("ABCA"), a company can amend its articles and governing documents with approval of shareholders pursuant to a special resolution of its shareholders. A "special resolution" is a resolution passed by a majority of not less than two-thirds of the votes cast by the shareholders who voted in respect of that resolution or signed by all the shareholders entitled to vote on that resolution. Items that can be amended via special resolution include (but are not limited to): a change in our name; changing any maximum number of shares that we are authorized to issue; creating new classes of shares; reducing the stated capital attributable to a class of shares; changing the designation of our shares and adding, changing or removing any rights, privileges, restrictions and conditions, including rights to accrued dividends, in respect of all or any of our shares, whether issued or unissued; changing the shares of any class or series into a different number of shares of the same class or series (i.e. a stock split or a reverse stock split) or into the same or a different number of shares of other classes or series; or adding, changing or removing any provision that is permitted by the ABCA to be included in the articles of a company.

Under the ABCA, the holders of shares of a class or series may be entitled to vote separately as a class or series in relation to certain proposed amendments to the articles**.** In the case of shares of a series, the holders of a particular series of shares are entitled to a separate series vote where the holders of the applicable series are affected by an amendment in a manner different from other shares of the same class. This separate class or series vote applies whether or not the shares of a class or series otherwise carry the right to vote.

Shareholder Meetings

Under the ABCA: (1) We must hold an annual meeting of shareholders not later than 15 months after holding the last preceding annual meeting; (2) the directors may at any time call a special meeting of shareholders; and (3) the registered or beneficial holders of not less than 5% of our issued shares that carry the right to vote at a meeting sought to be held may requisition the directors to call a meeting of shareholders for the purposes stated in the requisition subject to satisfying certain requirements in the ABCA, including requirements related to the proposed subject matter of the meeting.

The most recent annual meeting of our shareholders was held on November 5, 2019.

The ABCA requires that notice of the time and place of a meeting of shareholders shall be sent not less than 21 days and not more than 50 days before the meeting: (1) to each shareholder on record that is entitled to vote at the meeting; (2) to each director; and (3) to our auditor.

We must also comply with certain continuous disclosure obligations of a reporting issuer in Canada respecting shareholder meetings.

Certain Earl Warning Disclosure and Take-over Bid Requirements

Canadian laws applicable to us provide for early warning disclosure requirements and for take-over bid rules for bids made to security holders in various jurisdictions in Canada, a summary of which is set forth below.

In Canada, securities laws are a matter of provincial/territorial jurisdiction and, as a result, early warning disclosure requirements and bids are governed by applicable corporate and securities legislation in each province or territory, which includes policies and instruments implemented by Canadian Securities Administrators which have been adopted in the applicable jurisdiction.

Under the laws of the Provinces of Alberta and British Columbia, the jurisdictions in Canada in which we are a reporting issuer (as defined under provincial securities law), when any person (an "offeror") acquires beneficial ownership of, or the power to exercise control or direction over, voting or equity securities of any class of an issuer, or securities convertible into voting or equity securities of any class of an issuer that, together with such offeror's securities of that class, would constitute 10% or more of the outstanding securities of that class, the offeror must (a) issue no later than the opening of trading on the business day following the acquisition a press release announcing the acquisition, and file that press release on SEDAR; and (b) prepare and file an "early warning report" of such acquisition with the applicable securities regulatory authorities (on SEDAR) within two business days of the acquisition. For purposes of determining the "offeror's securities", an offeror is required to include securities in respect of which beneficial ownership or control or direction is held by the offeror as well as persons considered to be "acting jointly or in concert" with the offeror. Further, there are rules with respect to "deemed beneficial ownership" of securities, including a provision whereby a person is deemed to beneficially own a security by virtue of ownership of a security convertible into that security within 60 days.

Once an offeror has filed an "early warning report" as described in the above paragraph, the offeror is required to issue further press releases and file further early warning reports (a) each time that the offeror, or any person acting jointly or in concert with the offeror, acquires of disposes of beneficial ownership of, or acquires or ceases to have control or direction over, or either (i) securities in an amount equal to 2% or more of the outstanding securities of the class of securities that was the subject of the most recent report filed by the offeror; or (ii) securities convertible into an additional 2% or more of the outstanding securities of the applicable class; or (b) upon a change in any other material fact set out in the most recent early warning report required to be filed by the offeror. Certain institutional investors may elect to comply with an alternative monthly reporting system.

In Alberta, British Columbia and other Canadian jurisdictions, a take-over bid is generally defined as an offer to acquire outstanding voting or equity securities of a class of an issuer made to any holder in the applicable jurisdiction, or whose address as shown on the books of the issuer is in the applicable jurisdiction, if the securities subject to the offer to acquire, together with securities beneficially owned, or over which control or direction is exercised, by the offeror and any person "acting jointly or in concert" with the offeror, constitute in the aggregate 20% or more of the outstanding securities of that class of securities of the issuer at the date of the offer to acquire.

Subject to limited exemptions, a take-over bid must generally be made to all holders of securities of the class that is subject to the bid who are in the applicable jurisdiction, and subject to certain exceptions, must allow such security holders at least 105 days to accept the bid. Unless exemptions are available, the offeror must deliver to the security holders a take-over bid circular which describes the terms of the take-over bid and satisfies other disclosure requirements. The directors of the subject issuer must deliver a directors' circular not later than 15 days after the date of the bid, either making or declining to make a recommendation to security holders to accept or reject the bid and the reasons for their making or not making a recommendation, or otherwise advising security holders that the board is not making a recommendation (and the reasons therefor) or that the board is considering whether to make a recommendation (and the reasons therefor, together with advice that security holders should not tender to the bid until receiving further communication from the directors). Whilst provincial securities laws in Canada only regulate offers to residents of the particular province, the Canadian Securities Administrators have adopted a policy whereby they may issue a cease trade order against a company if a take-over bid is not made to all Canadian security holders.

One exemption from the requirements applicable to take-over bids is in the case of a "foreign take-over bid". Such an exemption may be available where (among other requirements): (a) security holders whose last address as shown on the books of the offeree issuer is in Canada hold less than 10% of the outstanding securities of the class subject to the bid at the commencement of the bid; (b) the offeror reasonably believes that security holders in Canada beneficially own less than 10% of the outstanding securities of the class subject to the bid at the commencement of the bid; (c) the published market on which the greatest volume of trading in securities of that class occurred during the 12 months immediately preceding the commencement of the bid was not in Canada; (d) security holders in the local jurisdiction are entitled to participate in the bid on terms at least as favourable as the terms that apply to the general body of security holders of the same class; (e) at the same time as material relating to the bid is sent by or on behalf of the offeror to security holders of the class that is subject to the bid, the material is filed and sent to security holders whose last address as shown on the books of the offeree issuer is in the local jurisdiction; and (f) if no material is sent by or on behalf of the offeror to security holders, then the availability of the bid documents must be advertised to shareholders in a permitted manner. For a complete description of the foreign take-over bid exemption, readers are referenced to Multilateral Instrument 62-104 – *Take-over Bids and Issuer Bids*, issued by the Canadian Securities Administrators.

Transfer Agent and Registrar

The transfer agent and registrar for our common shares is AST Trust Company (Canada). Our transfer agent's address is 1 Toronto Street, Suite 1200, Toronto, Ontario M5C 2VC and its telephone number is (416) 682-3844.

Our co-transfer agent is American Stock Transfer & Trust Company.

Listing

Our common shares are listed on the NYSE American under the symbol "ZOM."

Description of Preferred Shares

Our board of directors is authorized to issue an unlimited number of preferred shares in one or more series, without shareholder approval, unless shareholder approval is required by applicable law or by the rules of a stock exchange or quotation system on which any series of our preferred shares may be listed or quoted. Our board is authorized to establish from time to time the number of preferred shares to be included in each series and to fix the rights, privileges, restrictions and conditions attaching to the series. This right of the board is subject to the requirements of the ABCA, and our Articles of Amalgamation, which establish "class rights" applicable to the preferred shares, as a class. The class rights applicable to the preferred shares authorize the directors to determine the designation, rights, privileges, restrictions and conditions attaching to the applicable series at the time of issue, including the authority to determine dividend rights and rights on winding up, liquidation or dissolution of the Company, which may have priority in relation to the common shares. Further, the class rights provide that the preferred shares are not entitled to notice of or to vote at meetings of the shareholders of the Company.

Series 1 Preferred Shares

The only series of preferred shares that has been created to date is the "Series 1 Preferred Shares". An aggregate of 20 Series 1 Preferred Shares have been authorized, and 12 Series 1 Preferred Shares have been issued at a "Stated Value" of US $1,000,000 per share.

Holders of the Series 1 Preferred Shares are not entitled to dividends but, in lieu thereof, are entitled to receive payments defined as "Net Sales Returns". Net Sales Returns are to equal 9% of "Net Sales" made by the Company or its affiliates for the sale of its products. Holders of Series 1 Preferred Shares are entitled to receive Net Sales Returns until such time as the holders have received total Net Sales Returns in respect of each Series 1 Preferred Share equal to 9 times the Stated Value of each Series 1 Preferred Share. We will have the right to redeem the outstanding Series 1 Preferred Shares at any time at a redemption price equal to 9 times the aggregate Stated Value of each Series 1 Preferred Share outstanding, less the aggregate amount of the Net Sales Returns paid in respect of each share (the "Redemption Amount"). Upon any dissolution, liquidation or winding up, or other distribution of the assets of the Company for the purposes of winding up its affairs (other than a Fundamental Transaction, as defined below), the holders of Series 1 Preferred Shares will be entitled to a receive the Stated Value of each Series 1 Preferred Share less the Net Sales Returns paid on each Series 1 Preferred Share. Such amount shall be paid before any distribution is made to the holders of the common shares. A "Fundamental Transaction" is defined in the Series 1 Preferred Shares to mean: (a) an amalgamation, merger or other business combination transaction involving our company whereby all or substantially all of the outstanding common shares are sold, transferred or exchanged pursuant to which our shareholders before the transaction do not have the right after the transaction to cast more than 50% of the votes that may be cast for the election of directors of the successor or continuing corporation; or (b) a sale, lease or disposition of the properties and/or assets of our company as an entirety or substantially as an entirety to another person and the subsequent distribution of the consideration received to common shareholders. In the event of a Fundamental Transaction, the holders of the Series 1 Preferred Shares will be entitled to receive consideration for each Series 1 Preferred Share equal to a multiple of the Stated Value of the Series 1 Preferred Shares ranging from 5.0 to 9.0 depending on the date of completion of the Fundamental Transaction, subject to a cap equal to the Redemption Amount. The entitlement of holders of Series 1 Preferred Shares in the event of a Fundamental Transaction ranks prior in right of payment to the rights of holders of common shares. In connection with any proposed amendment to the rights, privileges, restrictions or conditions attaching to the Series 1 Preferred Shares, there is a requirement for such holders to approve the amendment at a meeting by the affirmative vote of not less than two-thirds, with holders entitled to one vote in respect of each Series 1 Preferred Share held. This approval requirement is in addition to any other approval requirement under applicable law.

Advance Notice By-laws

Our By-laws contain "advance notice" provisions with respect to the rights of holders of common shares to nominate directors for election at a meeting of shareholders. The By-laws require shareholders to notify the Company of nominations 30 to 65 days in advance of an annual meeting, except that, where the meeting is to be held less than 50 days after the Company makes a public announcement of the meeting date, shareholders have until 10 days after the announcement of the meeting date to submit a notification. In the case of special meetings where annual business is not conducted, shareholders have until 15 days following the public announcement of the meeting date to submit a notification.

The notice provided by shareholders must include certain information, including information about the proposed nominee that would be required to be included in a dissident proxy circular in connection with the solicitation of proxies for the election of directors under the ABCA and applicable securities laws. The Company may also require the proposed nominee to provide additional information related to the determination of the status of the nominee as an independent director.

The By-laws do not affect the ability of shareholders to make shareholder proposals or to requisition a meeting, in each case in accordance with the provisions of the ABCA.

The directors of the Company have the ability to waive any requirement in this regard.

Exhibit 10.31

Certain identified information has been excluded from this exhibit because it is both (i) not material and (ii) would likely cause competitive harm to the registrant if publicly disclosed. [*] indicates that information has been redacted.

AMENDED AND RESTATED EXCLUSIVE LICENSE AND SUPPLY AGREEMENT

This **Amended and Restated Exclusive License and Supply Agreement** (this "**Agreement**"), dated as of January 17, 2020 but made effective January 1, 2020 ("**Effective Date**"), is made by and between Celsee, Inc. ("**Celsee**"), a Delaware corporation having a business address at 100 Phoenix Drive, Suite 321, Ann Arbor, MI 48108, USA, and Zomedica Pharmaceuticals Corp. ("**Zomedica**"), a Canadian corporation having a business address at 100 Phoenix Drive, Suite 190 Ann Arbor MI 48108 USA Each of Celsee and Zomedica may be referred to herein as a "**Party**" or together as "**Parties**".

WHEREAS:

A. Celsee has proprietary microfluid technology for processing samples and isolating circulating tumor cells ("CTCs") for Oncology/Immuno-Oncology life science and clinical research applications including for diagnostic purposes and develops, manufactures, and markets innovative, integrated microfluidic systems for same.

B. Zomedica is a veterinary pharmaceutical and health care solutions company creating innovative products for companion animals (canine, feline and equine) including veterinary-approved drugs, novel drug-delivery technologies, diagnostics, and which has expertise and know-how in developing products for applications in the veterinary field.

C. The Parties entered into a Collaborative Research Agreement of January 3, 2017 ("CRA"), and a License and Supply Agreement dated December 20, 2017 (the Original Agreement") to develop consumable CTC assay materials for detection of companion animal cancers from blood with such consumables consisting of at least the Celsee Immunochemistry Consumable Package (without antibodies) and which may also include Zomedica antibody sets and/or biomarkers (inclusive of antibodies, the "CTC Consumable Package").

D. The parties now desire to amend and restate the Original Agreement in its entirety as set forth herein

NOW THEREFORE, in consideration of the foregoing premises and the mutual covenants set forth in this Agreement, the consideration given, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereto, intending to be legally bound, hereby agree as follows:

1. Definitions

The following terms and their correlatives have the following meanings:

1.1 "Affiliate" means any corporation or other entity which directly or indirectly controls, is controlled by or is under common control with a Party, for so long as such control exists. For the purposes of this Section 1.1 ("Affiliate"), "control" shall mean: (i) in the case of any corporate entity, direct or indirect ownership of more than fifty percent (50%) of the stock having the right to vote for the election of directors thereof or (ii) in the case of any non-corporate entity, direct or indirect ownership of more than fifty percent (50%) of the equity or income interest therein.

1.2 "Agreement" has the meaning set forth in the Preamble and includes this Agreement and any schedules, appendices and development plan(s).

1.3 "Arbitrator" has the meaning set forth in Section 15.4.

1.4 "Background Intellectual Property" means the Intellectual Property created or Controlled by a Party prior to the Effective Date of this Agreement.

1.5 "Bankruptcy Laws" has the meaning set forth in Section 13.3(b)(i).

1.6 "BIA" has the meaning set forth in Section 13.3(b)(i).

1.7 "Business Day" means any day that is not a Saturday, Sunday, or statutory holiday in the state of Michigan.

1.8 "Calendar Quarter" means a quarter of the year, the first Calendar Quarter ending March 31 of each year, the second on June 30 of each year, the third on September 30 of each year and the fourth on December 31 of each year.

1.9 "Calendar Year" means the calendar year, commencing at the beginning of the first Calendar Quarter and ending the end of the fourth Calendar Quarter.

1.10 "Celsee Controlled Patent Right" means a Patent Right that is Controlled by Celsee.

1.11 "Celsee Controlled Technology" means Technology Controlled by Celsee including Celsee Owned Intellectual Property, and Celsee Controlled Patent Rights.

1.12 "Celsee Core Technology" means the Celsee CTC Platform Technology, collectively with the Celsee Immunochemistry Consumable Package.

1.13 "Celsee's CTC Platform Technology" means Celsee's proprietary instruments as set forth in Schedule A, and software and Technology related thereto.

1.14 "Celsee Consumable Package" means the consumables (Kits) set forth in Schedule A.

1.15 "Celsee Field" means all fields of use other than the Zomedica Field, including, but not limited to, all human health and human diagnostic applications, veterinary research, and other veterinary care outside of the Zomedica Field.

1.16 "Celsee Indemnitees" has the meaning set forth in Section 12.2.

1.17 "Celsee Owned Intellectual Property" is the Intellectual Property owned by Celsee as set out in Section 8.2.

1.18 "Celsee Parties" has the meaning set forth in Section 12.1(a).

1.19 "CCAA" has the meaning set forth in Section 13.3(b)(i).

1.20 "Change of Control" means, with respect to a Party, (a) a merger, reorganization, or consolidation of a Party with or into any Third Party, or any other corporate reorganization involving such a Third Party, that results in those persons or entities that are stockholders of a Party immediately prior such merger, reorganization, or consolidation owning less than fifty percent (50%) of the surviving entity's voting power immediately after such merger, reorganization, or consolidation, (b) a change in the legal or beneficial ownership of fifty percent (50%) or more of the combined voting power of the outstanding securities of a Party (whether in a single transaction or series of related transactions), where immediately after giving effect to such change, the legal or beneficial owner of more than fifty percent (50%) of the voting securities of a Party is a Third Party or (c) the sale, transfer, lease, license or other disposition to a Third Party of all or substantially all of a Party's business or assets to which this Agreement relates in one or a series of related transactions; provided that a "Change of Control" shall not include any Change of Control required by a government or the requirements of applicable Law or a transaction or series of transactions undertaken principally undertaken for bona fide equity financing purposes.

1.21 "Clinical Validation" means the successful testing by Zomedica with at least one veterinary cancer type of the customized CTC Consumable Package and Celsee Platform Technology for use in the Zomedica Field, across a sample of sufficient size and rigor to support the diagnostic sensitivity and specificity of the product for marketing purposes as determined by Zomedica in its sole discretion.

1.22 "Collaboration Product" means a veterinary clinical cancer diagnostic product developed pursuant to the Development Plan or this Agreement including CTC Consumable Package(s) and Celsee's CTC Platform Technology modified or adapted for use in the Zomedica Field as set forth in Schedule A.

1.23 "Commercially Reasonable Efforts" of a Party means, with respect to an obligation of a Party to accomplish an objective under this Agreement, the efforts and resources comparable to those undertaken by a veterinary pharmaceutical company of comparable size and resources in the case of Zomedica or a biopharmaceutical or biotechnology company of comparable size and resources in the case of Celsee relating to the research, development, manufacture or commercialization of a similar product owned by such company, or to which such company has exclusive rights, with comparable market potential and is at a similar stage in its lifecycle. For this purpose, all relevant factors, as measured by the facts and circumstances at the time such efforts are due, shall be taken into account, including, as applicable and without limitation, stage of development; efficacy and safety relative to competitive products in the marketplace; actual or anticipated Regulatory Approval; labeling; the nature and extent of market exclusivity (including patent coverage, proprietary position and regulatory exclusivity), product pricing and reimbursement; and the cost and time required for and likelihood of obtaining Regulatory Approval and commercializing a product.

1.24 "Confidential Information" has the meaning set forth in Section 9.1 (Confidentiality; Exceptions).

1.25 "Contract Interest Rate" means the lesser of:

(a) the Wall Street Journal prime rate of interest ; and

(b) the maximum rate permitted by Michigan Law.

1.26 "Control" means, with respect to any Information, Patent Right or other intellectual property right, the possession (whether by ownership or license) by a Party or its Affiliate of the conditional or unconditional ability to grant to the other Party access, ownership, a license or a sublicense as required herein (including without limitation pursuant to a power of attorney) to such Information, Patent Right, or other intellectual property right without violating the terms of any agreement or other arrangement with any Third Party in existence as of the Effective Date. In the case that the ability to grant is conditional (as with certain sublicenses), Control will require that the other Party be able to and agrees to satisfy such condition (s).

1.27 "Covers" or "Covering", with reference to a Patent Right, means that the making, using, selling, offering for sale or importing of a composition of matter, process or other material or practice of a claimed method would, but for ownership of or a license under such Patent Right, comprise an infringement (including contributory or inducement) of a Valid Claim (or, if such Valid Claim has not issued, if such Valid Claim were to issue), within such Patent Right in the country in which such activity occurs.

1.28 "CTC Consumable Package" means a package of CTC assay consumables (Kits) as set forth in Schedule A.

1.29 "Development" or "Develop" means non-clinical and clinical development activities pertaining to a Collaboration Product, including, but not limited to, antibody identification and testing, protocol optimization, software optimization, process and manufacturing development, quality assurance and quality control development, statistical analysis, and clinical studies.

1.30 Intentionally Omitted

1.31 "Development Plan" means the written plan for Developing and validating Collaboration Products, as set forth in the Development Plan Schedule of the Original Agreement which Development Plan has been completed with all payments due thereunder having been made.

1.32 "Dispute" has the meaning set forth in Section 14.1.

1.33 "Dollars" means U.S. Dollars, and "$" shall be interpreted accordingly.

1.34 "Effective Date" has the meaning set forth in the Preamble.

1.35 "Force Majeure" has the meaning set forth in Section 15.7 (Force Majeure).

1.36 "Indemnified Party" has the meaning set forth in Section 12.3.

1.37 "Indemnifying Party" has the meaning set forth in Section 12.3.

1.38 "Indemnify" has the meaning set forth in Section 12.1.

1.39 "Information" means all information not generally known to the public, including tangible and intangible techniques, technology, practices, trade secrets, inventions (whether patentable or not), methods, knowledge, know-how, conclusions, skill, experience, test data and results (including pharmacological, toxicological, manufacturing, and clinical test data and results), analytical and quality control data, results or descriptions, software and algorithms, including works of authorship and copyrights.

1.40 "Insolvency Event" has the meaning set forth in Section 13.3(a).

1.41 "Insolvent Party" has the meaning set forth in Section 13.3(b)(ii).

1.42 "Intellectual Property" means Patent Rights, trade secrets, copyrights (and associated moral rights), trade-marks (and associated goodwill), industrial designs, domain names, Know-How and other forms of proprietary or industrial rights pertaining to inventions, original works and other forms of intellectual property.

1.43 "Know-How" means all techniques, technical information, technology practices, research tools and platforms, trade secrets, inventions (whether patentable or not), methods, processes of manufacture, methods for isolation of CTCs, data and results (including pharmacological, toxicological and preclinical and clinical test data and results), analytical and quality control data, software including in source code or object code form) and algorithms now or hereafter Controlled by the Parties.

1.44 "Law" means, individually and collectively, any and all applicable laws, statutes, regulations, treaties, judgments, decrees, ordinances, rules, rulings, directives, and administrative circulars, (and whether or not having the force of law) all applicable consents, approvals, by-laws, permits, authorizations, guidelines, orders and policies of any kind whatsoever of any governmental authority or Regulatory Authority within the applicable jurisdiction.

1.45 "Losses" has the meaning set forth Section 12.1.

1.46 "Materials" means any tangible instrument, property, chemical or biological material.

1.47 "Party" and "Parties" has the meaning set forth in the Preamble.

1.48 "Patent Right" means any and all rights in patents which are defined as:

(a) patents;

(b) pending patent applications, including, all provisional applications, substitutions, continuations, continuations-in-part, divisions and renewals and all patents granted thereon;

(c) all patents-of-addition, reissues, reexaminations and extensions or restorations by existing or future extension or restoration mechanisms, including, supplementary protection certificates or the equivalent thereof;

(d) inventor's certificates;

(e) any other form of government-issued right substantially similar to any of the foregoing; and

(f) all U.S. and foreign counterparts of any of the foregoing, collectively, (a) to (f) being "Patents".

1.49 "Post Term Period" has the meaning in Section 13.5.

1.50 "Prosecution and Maintenance" means, with respect to a Patent Right, the preparing, filing, and prosecuting of patent applications and maintenance of patents, as well as re-examinations, and reissues, with respect to such patents, together with the conduct of interferences and the defense of oppositions with respect to the particular patent application or patent; and "Prosecute and Maintain" have the correlative meaning.

1.51 "Regulatory Authority" means, with respect to a country, the regulatory authority or regulatory authorities of such country with authority over this Agreement and activities contemplated hereunder including the testing, manufacture, use, storage, importation, promotion, marketing, pricing or sale of a diagnostic product or Collaboration Product in such country.

1.52 "Senior Executives" has the meaning set forth in Section 14.1.

1.53 "Taxes" means any present or future taxes, levies, imposts, duties, charges, assessments or fees of any nature (including any interest thereon).

1.54 "Technology" as used herein includes all Intellectual Property and associated Rights, all Information, Confidential Information, Know-How and Materials.

1.55 "Term" has the meaning set forth in Section 13.1.

1.56 "Territory" means the world.

1.57 "Third Party Claim" has the meaning set forth in Section 12.1.

1.58 "Third Party" means any entity other than a Party or an Affiliate of a Party.

1.59 "United States" or "U.S." means the United States of America, including its territories and possessions, the District of Columbia and Puerto Rico.

1.60 "Valid Claim" means, with respect to a particular country:

(a) any claim of an issued and unexpired Patent Rights in such country that:

(i) has not been held permanently revoked, unenforceable or invalid by a decision of a court or governmental agency of competent jurisdiction, which decision is unappealable or unappealed within the time allowed for appeal; and

(ii) has not been abandoned, disclaimed, denied or admitted to be invalid or unenforceable through reissue or disclaimer or otherwise in such country; or

(iii) a claim of a pending patent application where such claim has been pending for a period of ten (10) years or less.

1.61 "VAT" means the goods and services tax and the harmonized sales tax or other value added tax imposed by Applicable Laws.

1.62 "Zomedica" shall have the meaning set forth in the Preamble.

1.63 "Zomedica Field" means all veterinary oncology care.

1.64 "Zomedica Owned Intellectual Property" means Intellectual Property owned by Zomedica as noted in Section 8.

1.65 "Zomedica Indemnitees" has the meaning set forth in Section 12.1.

1.66 "Zomedica Parties" has the meaning set forth in Section 12.2(a).

1.67 "Schedules" The following schedules are (or will be once agreed to between the Parties) attached to and form part of this Agreement:

Schedule A – Collaboration Product Pricing

Schedule B – Celsee Patent Rights

Schedule C – Compliance Schedule/Code of Conduct

Schedule D – Customer Service Agreement

Schedule E – Quality Control

1.68 Construction.

(a) The definitions of the terms herein apply equally to the singular and plural forms of the terms defined.

(b) Whenever the context may require, any pronoun includes the corresponding masculine, feminine and neuter forms.

(c) The words "include", "includes" and "including" are deemed to be followed by the phrase "without limitation."

(d) The word "will" is construed to have the same meaning and effect as the word "shall."

(e) Unless the context requires otherwise,

(i) any definition of or reference to any agreement, instrument or other document herein will be construed as referring to such agreement, instrument or other document as from time to time amended, supplemented or otherwise modified (subject to any restrictions on such amendments, supplements or modifications set forth herein or therein),

(ii) any reference to any Laws herein will be construed as referring to such Laws as from time to time enacted, repealed or amended,

(iii) any reference herein to any person will be construed to include the person's permitted successors and assigns,

(iv) the words "herein", "hereof" and "hereunder", and words of similar import, will be construed to refer to this Agreement in its entirety and not to any particular provision hereof, and

(v) all references herein to Articles, Sections or Schedules, unless otherwise specifically provided, will be construed to refer to Articles, Sections or Schedules of this Agreement.

2. Development Plan; Exclusivity

2.1 Exclusivity. During the Term or in the event this Agreement is terminated by Zomedica as a result of an uncured material breach by Celsee pursuant to Section 13.2(a)(i) for a period [*] thereafter, Celsee and its Affiliates shall not, directly or indirectly, without the prior written consent of Zomedica:

(a) conduct or continue any research or development of any new or existing products for use in Zomedica's Field, alone or in collaboration with or for the benefit of any Third Party (including any governmental agency) for the purposes of commercialization, use, manufacture or distribution of CTC Consumable Packages or any other products utilizing Celsee's CTC Platform Technology in the Zomedica Field; provided however that this prohibition shall not apply solely to research in the Zomedica Field conducted pursuant to funding received from government grants;

(b) except pursuant to the Development Plan, Develop or commercialize any product in the Zomedica Field, alone or in collaboration with or for the benefit of any Third Party (including any governmental agency);

(c) collaborate with, license, enable or otherwise authorize or grant rights to any Third Party under the Intellectual Property or any other Celsee Core Technology or Celsee Controlled Technology or Celsee's CTC Platform Technology to use, develop, commercialize or manufacture products in the Zomedica Field, other than Third Party subcontractors to the extent permitted under Section 2.2, or enter into any agreement, amendment to an existing agreement or option to do any of the same; or

(d) grant any right to any Third Party in the Zomedica Field that would impair or conflict in any way with any of the rights granted to Zomedica under this Agreement; and

(e) notwithstanding any of the foregoing and for clarity, subject to Section 9.1(b) and Section 9.2, Celsee, its Affiliates, and all other non-profit academic research institutions with whom it may contract from time to time, shall not be restricted from conducting any non-clinical Development activities for non-commercial purposes or for profit research with contract research organizations for the sole purpose to develop and commercialize products outside the Zomedica Field, including veterinary research, veterinary clinical diagnostics for indications other than cancer, and human clinical research.

2.2 Permitted Subcontracting.

(a) Each Party may subcontract any of its activities to be performed under the Development Plan to a Third Party or to an Affiliate of the Party, provided that any such Third Party or Affiliate shall have entered into a written agreement with such Party that includes terms and conditions protecting and limiting use and disclosure of Confidential Information, Materials and Information of the other Party at least to the same extent as under this Agreement or, in the case of such Affiliate, such Affiliate is subject to similar obligations of non-use and non-disclosure, and requiring such Third Party or Affiliate, as applicable, and its employees, contractors and agents to grant such Party Control in and to any Patent Rights, Information and Materials created, conceived or reduced to practice in connection with the performance of any such subcontracted activities.

(b) Each Party shall remain responsible and liable for the performance by its Affiliates and subcontractors of its obligations hereunder, and shall cause its Affiliates and subcontractors to comply with the provisions of this Agreement, including, causing such Third Parties to make any and all assignments of intellectual property rights generated in carrying out a Party's obligation in accordance with the terms of this Agreement.

Certain identified information has been excluded from this exhibit because it is both (i) not material and (ii) would likely cause competitive harm to the registrant if publicly disclosed. [*] indicates that information has been redacted.

3. Intentionally Omitted

4. Manufacturing and Supply

4.1 Branding. The Collaboration Product will display branding determined by Zomedica for the veterinary diagnostics market. To the extent possible and as allowed by applicable Laws, Celsee's brand will also be displayed on the Collaboration Product components.

4.2 Manufacturing and Product Supply.

(a) During the Term, Celsee shall exclusively supply the Collaboration Products to Zomedica for resale to customers of Zomedica solely for use in the Zomedica Field.

(b) Zomedica shall issue to Celsee from time to time, purchase orders which shall confirm the quantity and shipping arrangement for the Collaboration Products. This Agreement shall contain all terms and conditions regarding the sale of Collaboration Products and any terms in Zomedica's purchase orders which are inconsistent with the terms of this Agreement shall be of no force and effect. Delivery Dates for the Collaboration Products will be [*] and for the CTC Consumable Package will be [*] after the purchase order is delivered to Celsee. Zomedica shall be responsible for supply of the antibody cocktail or biomarkers, if any, for inclusion in the CTC Consumable Package used in the Collaboration Products at no cost to Celsee. Zomedica shall be responsible for sales of Collaboration Products to customers, for invoicing customers and for collecting receivables related to Collaboration Products in a timely fashion. All undisputed invoices for Collaboration Products shall be provided by Celsee to Zomedica following product shipment and shall be due and payable in full within [*] of the date the invoice is received.

(c) Celsee will manufacture and supply the Collaboration Products at agreed upon supply prices as noted in Section 7.4 to Zomedica, which shall be subject to adjustment as provided in this Agreement. All Collaboration Products shall be manufactured in accordance with applicable Laws and meet all specifications for the Collaboration Products.

(d) Within 30 days of the Effective Date and [*] prior to the commencement of each calendar quarter during the Term and the Post Term Period, Zomedica shall provide a rolling non-binding 12 month forecast of its supply requirements for Collaboration Products (the "Forecast"). Celsee will use Commercially Reasonable Efforts to maintain sufficient capacity to meet all supply requirements of Zomedica and its customers for the Collaboration Products based on the Forecast. Celsee will use Commercially Reasonable Efforts to supply the Collaboration Products, CTC Platform or CTC Consumable Packages in excess of [*] of Forecast amounts. Celsee shall promptly notify Zomedica in writing if at any time Celsee has reason to believe (i) that it will not be able to fill a purchase order in accordance with the delivery schedule specified therein and pursuant to the terms of this Agreement or (ii) supply Collaboration Products, the Celsee Platform equipment or CTC Consumable Package in satisfaction of the most recent Forecast which notice in either event shall provide Zomedica with information on the extent of the

expected shortfall. Upon receipt of such notice, the Parties shall immediately meet and work together in good faith to identify an appropriate resolution to the supply shortfall.

(e) Zomedica shall have [*] business days from receipt of each delivery of Collaboration Products to inspect the delivery for a shortfall, and to inspect the Collaboration Products packaging for visible defects. Zomedica may notify Celsee of a shortfall, or reject visibly defective Collaboration Products, within [*] days of such inspection. Upon notice to Celsee of a shortfall or defect, Celsee shall deliver the shortfall amount as soon as commercially possible. Zomedica may request expedited (e.g., overnight) shipment of such shortfall delivery and Celsee shall be responsible for the cost of such expedited shipment.

(f) Celsee shall package the Collaboration Products in containers suitable to ensure that the Collaboration Products will not be damaged in the ordinary course of delivery. Shipment shall be made EXW Celsee's dock. Celsee shall arrange for the shipment of the Collaboration Products to Zomedica in accordance with Zomedica's instructions (e.g., use of Zomedica's freight account, insurance, etc.), and Zomedica shall pay the cost of shipping as reflected in the corresponding Collaboration Products invoice. Celsee will perform, at Celsee's expense, quality control testing on all Collaboration Products in accordance with normal industry standards, as detailed in Schedule E. Contemporaneous with each shipment of Collaboration Products hereunder, Supplier will provide Company with a Certificate of Analysis with respect to such Collaboration Product confirming that the Collaboration Products have undergone quality control testing.

(g) Celsee shall promptly notify Zomedica of any anticipated changes to the Collaboration Products or any components thereof, and shall also notify Zomedica of proposed changes to the Quality Control processes documented in Schedule E. The Parties shall use Commercially Reasonable Efforts to accommodate and integrate any necessary changes, with the goal of minimizing the commercial impact on the Collaboration Products.

5. Marketing, Customer and Product Support

5.1 Zomedica will be solely responsible for marketing the Collaboration Products in the Zomedica Field.

5.2 Zomedica will be responsible for warehousing of the Collaboration Products inventory, and for sales of and shipping of such products to end customers. The Parties understand and agree that during the Term, Celsee's warehouse will be available for inventory..

5.3 Once a product is sold to a customer, Zomedica will be responsible for providing training and first-tier customer support. Celsee will provide training to necessary Zomedica employees, as well as materials to be used in providing training for Zomedica customers. Any Collaboration Product or software-related support in the United States will be provided by Celsee without charge, with the parties' specific support responsibilities as enumerated in Schedule D.

Celsee will provide necessary training at an agreed rate to Zomedica distributors outside the United States.

5.4 Warranty and Limitations.

(a) Limited Warranty**.** Celsee shall be responsible for all warranty work, refunds and repairs with respect to the CTC Platform and shall be entitled to retain all revenues from extended warranty or service contracts in the United States between Celsee and any customers of Zomedica. Celsee warrants all instruments and Collaboration Products will be free from defects in materials or workmanship under normal use for a period of [*] from shipment to Zomedica and all consumables will be free from defects in materials or workmanship under normal use and proper storage conditions for [*] from shipment to Zomedica or the stated Celsee shelf life for consumables. The warranty shall not apply to any defects directly attributable to antibody sets or biomarkers provided by Zomedica. In addition, the warranty shall not apply to any Collaboration Product used for a purpose or in a manner for which it was not intended, which is not used in accordance with instructions for use, which is altered in any way, or which is subject to misuse, negligence, accident or neglect. Celsee's obligation with respect to this warranty is limited to the replacement of defective Collaboration Products after inspection and verification of such defects. Zomedica will responsible to the customer for any warranty beyond the warranty provided herein.

(b) Celsee's warranty obligations under this Section 5.4 are subject to Zomedica's compliance with the following procedures:

(i) The Products are sold by Zomedica in the Zomedica Field.

(ii) Upon identification of a defect covered under Celsee's warranty, Zomedica will notify Celsee of the product SKU and lot number of the allegedly defective Collaboration Product with a description of the problem or defect.

(iii) Celsee shall notify Zomedica if the allegedly defective Collaboration Product should be returned and, if so, will issue a Celsee return merchandise authorization (RMA) number with respect to the claim.

(iv) Any items returned to Celsee under warranty pursuant to an RMA are to be sent freight prepaid. In the event that Celsee determines that the Collaboration Product need not be returned, the Collaboration Product shall be destroyed by Zomedica or the customer.

(v) Celsee shall provide replacement of the returned Collaboration Products that are determined to be defective, in Celsee's sole discretion, at no charge to Customer.

Certain identified information has been excluded from this exhibit because it is both (i) not material and (ii) would likely cause competitive harm to the registrant if publicly disclosed. [*] indicates that information has been redacted.

5.5 Additional extended warranties in United States can be purchased from Celsee at [*] per instrument per year. Extended warranties outside the United States will be the responsibilities of Zomedica or its distributors, with any necessary training to be provided by Celsee. Zomedica shall be responsible for any warranties given to its customers beyond those in Section 5.4. All customer warranties shall contain customary limitations of liability and damage limitations protecting both Zomedica and Celsee.

5.6 Replacement parts for warranty work performed outside of the U.S. will be provided by Celsee, with the requirement that any defective parts shall be returned to Celsee as part of the warranty/repair process.

6. License Grants

6.1 During the Term and the Post Term Period of the Agreement, each Party grants to the other a non-exclusive license for the Territory in their respective Intellectual Property to the extent necessary to develop and manufacture Collaboration Product(s) and for no other purposes.

6.2 During the Term of this Agreement, Celsee herein grants Zomedica an exclusive (other than during the Post Term Period detailed in Section 13.5 or as otherwise expressly set forth herein) fully paid up license in the Territory (even as to Celsee), to all Celsee Controlled Technology and Celsee Core Technology related to the Collaboration Product(s), including the Celsee CTC Platform Technology and CTC Consumable Package(s), to commercialize, Develop or otherwise exploit, market, sell and distribute Collaboration Products solely in the Zomedica Field. For clarity, any other field of use or applications other than the Zomedica Field is excluded from the license granted herein.

7. Payments

7.1 Execution and Milestone Payments.

(a) The Parties acknowledge and agree that pursuant to the Original Agreement and prior to the Effective Date hereof, each of the following payments have been made by Zomedica to Celsee::

(i) A lump-sum one-time cash payment of $250,000 in consideration of Celsee's efforts toward [*].

(ii) A second lump-sum one-time cash payment of $250,000 to assist Celsee in [*].

(iii) A lump-sum one-time payment of $250,000, with such payment to be in the form of common shares in Zomedica. The number of common shares to be issued to Celsee shall be determined by the following formula: number of common shares =

$250,000/volume-weighted average price of Zomedica stock over the previous 10 days. This price shall be measured on the NYSE American exchange.

(b) In addition, pursuant to a Debt Conversion Agreement dated January 11, 2019, Zomedica has fully satisfied the milestone payments set forth in section (i) and (ii) below through the issuance to Celsee of Common Shares upon achievement of the following milestones, which the Parties acknowledge and agree that pursuant to the Original Agreement and prior to the Effective Date hereof, each of the following milestones have been achieved Celsee:

(i) Upon completion of product development [*] as determined by Zomedica in its sole discretion, Zomedica will (x) make a one-time payment of $250,000 to Celsee, with such payment to be in the form of common shares in Zomedica. The number of common shares to be issued will be determined in accordance with the formula in Section 8.1(a)(iii) above and (y) make an additional one-time payment of $250,000 in cash to Celsee.

(ii) Upon successful completion of the transfer by Celsee to a streamlined manufacturing process [*] for the Collaboration Product as determined by Zomedica in its sole discretion, Zomedica will (x) make a one time payment of $250,000 to Celsee, with such payment to be in the form of common shares in Zomedica. The number of common shares to be issued will be determined in accordance with the formula in Section 8.1(a)(iii) above and (y) an additional one time payment of $250,000 in cash to Celsee upon achievement of this milestone. The payments hereunder shall be made within [*] of the date of completion of the payment milestone.

7.2 Registration of Securities.

(a) As of the Effective Date, the securities issued pursuant to the Original Agreement and Debt Conversion Agreement have been registered under the Securities Act of 1933, as amended, or state securities laws with Zomedica having filed a registration statement to register securities from this agreement for resale in the United States.

7.3 Change of Control.

In the event of Zomedica Change of Control or the acquisition, sale or other assignment of all or substantially all of the Zomedica business to which the Agreement relates, unless otherwise agreed, all outstanding payments for Collaboration Products payable under Section 7.4 below which have not yet been paid shall become immediately due upon the closing of such transaction.

7.4 Payments for Supply

(a) Celsee shall supply Collaboration Products to Zomedica in accordance with the Supply Prices set forth on Schedule A.

7.5 Records and Audits. Celsee shall keep (and shall cause its Affiliates and sublicensees and subcontractors to keep) complete and accurate books and records of accounting pertaining to the amounts due and payable and or any applicable costs and expenses hereunder, in sufficient detail to permit Zomedica to confirm accuracy of all payments due hereunder. For the seven (7) years following the later of (a) the termination of this Agreement in accordance with its terms and (b) the completion of the Development Plan, such books and records of accounting shall be kept at each of their principal place of business and no more than once per Calendar Year (unless Zomedica is required to respond to or by a Government Authority) will be open for inspection during normal business hours and upon prior written notice by an independent certified accountant selected by Zomedica at Zomedica's expense, and which is reasonably acceptable to Celsee, for inspecting the payments made by Zomedica under this Agreement. Such accountant shall have executed and delivered to Celsee, a customary confidentiality agreement as reasonably requested by Celsee. The results of such inspection, if any, will be shared by the accountant with Zomedica and Celsee at either of Celsee's or Zomedica's request, and are binding on both Zomedica and Celsee.

7.6 Currency Used and Exchange Rates. All currency amounts in this Agreement are expressed in US Dollars and all payments to be made by Zomedica to Celsee under this Agreement shall be made in US Dollars by wire transfer in immediately available funds to a bank and account designated Celsee herein. When conversion of amounts received by Zomedica in any currency other than Dollars is required, such conversion shall be calculated using the rate of exchange using the following methodology:

(a) Calculations of sales and costs required by this Agreement will be made in United States Dollars regardless of the countries in which these sales or costs occur. Net Sales or Costs of Manufacture made in currencies other than Dollars will be converted into Dollars using a fixed exchange rate (subject to periodic adjustments as described below).

(b) Exchange rates for all payments under this Agreement will be fixed as of September 30th for a period of twelve (12) months forward, which is to commence the first business day of the next Calendar Year. The exchange rates will be fixed based on the close price exchange rates published in the Wall Street Journal for September 30th, where "close price" refers to the United States dollar/foreign currency exchange rates as published by the Wall Street Journal for September 30th (or the next business day if rates for September 30th are unavailable) of a given year.

(c) Exchange rates will reset annually based again on the applicable close price exchange rates. The reset exchange rates shall apply to all payments based on Net Sales after the reset date for the next twelve-month period and in no event shall such reset exchange rates be applicable to payments based on Net Sales in prior periods.

7.7 Taxes.

(a) Zomedica shall be responsible for collection and remittance of taxes on the sale of Collaboration Products by Zomedica to its customers. Zomedica will make all payments to Celsee under this Agreement without deduction or withholding for Taxes except to the extent that any such deduction or withholding is required by Law in effect at the time of payment. The Parties agree to use commercially reasonable efforts to minimize any withholding or similar Tax imposed upon payments payable under this Agreement and to consult in good faith before taking any action that is reasonably expected to result in the application of a withholding or similar Tax imposed upon payments payable under this Agreement.

(b) Any Tax required to be withheld on amounts payable under this Agreement will promptly be paid by Zomedica on behalf of Celsee to the appropriate governmental authority, and Zomedica will furnish Celsee with proof of payment of such Tax. Any such Tax required to be withheld will be an expense of and borne by Celsee.

(c) If Zomedica had a duty to withhold Taxes in connection with any payment it made to Celsee under this Agreement and Zomedica paid such Taxes (the "Assessed Amount"), then Zomedica will notify in writing it paid such Taxes, which notice will be a copy of the assessment and proof of payment including any other relevant documentation. Zomedica may offset the Assessed Amount against the immediately following payments owing to Celsee until such Assessed Amount has been fully satisfied.

(i) Zomedica and Celsee will cooperate with respect to all documentation required by any taxing authority or reasonably requested by Zomedica to secure a reduction in the rate of applicable withholding taxes. On the date of execution of this Agreement, Celsee shall provide any tax forms required to be completed for this transaction, including if applicable deliver to Zomedica an accurate and complete Internal Revenue Service Form W-8BEN-E certifying that Celsee is entitled to the applicable benefits under the Income Tax Treaty between Canada and the United States.

(ii) All payments due to Celsee from Zomedica pursuant to this Agreement shall be paid exclusive of VAT and similar commodity taxes. To support the zero-rating treatment for VAT purposes of any services, intellectual property rights or intangible personal property supplied by Celsee to Zomedica herein.

7.8 Manner of Payment. All payments to be made by a Party to another Party hereunder shall be in U.S. dollars by wire transfer to the relevant bank account detailed below or such other bank account as a Party (as applicable) may designate in writing from time to time during the Term

8. Intellectual Property

8.1 Publication. Without limitation of Section 9, neither Party shall publish or disclose any data or other Information arising from the Development Plan or related to the Collaboration Projects without scientific review and prior written approval by the other Party, provided that such restrictions shall not apply to the information a Party owns or Controls.

8.2 Ownership of Intellectual Property.

Ownership of Intellectual Property under this agreement shall be determined as follows:

(a) Each Party shall retain ownership over its Background Intellectual Property.

(b) All Intellectual Property independently or jointly developed by Celsee or Zomedica that is derived from or was developed using the Celsee Core Technology or that constitutes an improvement to the Celsee Core Technology will be owned by Celsee; provided however that any such Intellectual Property shall be subject to and included in the License granted Zomedica hereunder.

(c) All Intellectual Property independently developed by Zomedica on or after the Effective Date, and which is not based on or derived from the Celsee Core Technology and not encompassed in Section 8.2(b) will be the exclusive property and owned by Zomedica.

(d) Except as set form in (b) and (c) above, any Intellectual property developed independently by either Party subsequent to the Effective Date shall be owned by the Party that created such Intellectual Property.

(e) Any other Intellectual property jointly developed or invented will be jointly owned by Celsee and Zomedica ("Joint Intellectual Property"). Zomedica shall have fully paid-up, royalty-free, worldwide exclusive rights use any of such Joint Intellectual Property in the Zomedica Field, and Celsee shall have fully paid-up, royalty-free worldwide exclusive rights to use any of such Joint Intellectual Property in the Celsee Field.

8.3 Invention Disclosure.

Each Party shall promptly disclose to the other Party all inventions arising from the Development Plan that it and any of its Affiliates or subcontractors discovers or reduces to practice in performing the activities contemplated in the Development Plan or that relates to a Collaboration Product, its manufacture, use or sale except that nothing herein shall require disclosure of Celsee Core Technology independent of the Collaboration Product.

8.4 Prosecution of Patents.

(a) Subject to 8.4(b) each Party shall be responsible for the Prosecution and Maintenance and costs of all Patent Rights it owns using counsel chosen by them.

(b) Consultation. With respect to Celsee Controlled Patent Rights that are licensed to Zomedica, Celsee shall provide Zomedica with copies of all substantive documents relating to the Prosecution and Maintenance of said Patent Rights if desired by Zomedica and provide Zomedica with a reasonable opportunity to provide comments related to the prosecution of such Patent Rights.

8.5 Infringement of Third-Party Patent Rights. The Parties shall use reasonable efforts to avoid infringing or misappropriating any Third Party's Intellectual Property Rights in conducting any activities under this Agreement. Each Party shall promptly notify the other in the event it becomes aware of any patent rights controlled by a Third Party that may pertain to any such activities of the Parties.

8.6 Enforcement of Intellectual Property Rights.

(a) Notification. If a Party becomes aware of any infringement, threatened infringement, or alleged infringement of either Party's Intellectual Property on account of a Third Party's manufacture, use or sale of a product in the Zomedica Field in the Territory (in each case, a "**Product Infringement**"), then such Party shall promptly notify the other Party in writing of such Product Infringement, including any evidence in such Party's possession demonstrating such Product Infringement.

(b) Enforcement. During the Term and subject to the remainder of this Section 8.6(b), Zomedica shall have the first right to initiate, prosecute and control legal proceedings against any person or entity engaged in a Product Infringement, at Zomedica's expense. If Zomedica decides not to bring such legal action, or if Zomedica fails to initiate such legal action, Celsee shall have the right, but not the obligation, to commence a suit or take action to enforce the applicable Intellectual Property rights with respect to such Product Infringement in the Territory, at its own expense.

(c) Cooperation. Each Party shall provide to the Party enforcing any rights under Section 8.6(b) reasonable assistance in such enforcement, including joining such action as a party plaintiff if required by Applicable Law to pursue such action. The enforcing Party shall keep the other Party reasonably and regularly informed of the status and progress of such enforcement efforts, and shall reasonably consider the other Party's comments on any such efforts. The non-enforcing Party shall have the right to be represented in any action brought under Section 8.6(b) by counsel of its choice and at its own expense. For clarity, as between the Parties, Celsee shall have the exclusive right to bring and control any legal action in connection with any actual, alleged, or threatened infringement of its Intellectual Property Rights that is not a Product Infringement and is outside the Zomedica Field at its own expense as it reasonably determines appropriate.

(d) Settlement. Without the prior written consent of the other Party, such consent not to be unreasonably withheld, conditioned or delayed, neither Party shall settle any claim, suit or action brought under Section 8.6 involving the Intellectual Property rights of a Party in any manner that (i) admits the invalidity of, or otherwise impairs the other Party's Intellectual Property or (ii) limits, or would reasonably be expected to limit, the ability of the other Party or its licensees to sell or manufacture Collaboration Products in the Zomedica Field in the Territory or other products outside the Zomedica Field.

(e) Recoveries. Any recoveries resulting from an action brought by a Party under Section 8.6(b) relating to a claim of Product Infringement of an Intellectual Property right hereunder shall be first applied against payment of each Party's costs and expenses in connection therewith. Any such recoveries in excess of such costs and expenses (the "**Remainder**") will be retained by the enforcing Party.

(f) Joint Intellectual Property. If a Third Party infringes any Joint Intellectual Property, the Parties shall discuss such infringement and the Parties shall each have the right, but neither Party shall be obligated, to bring an appropriate suit or other action under such Joint Intellectual Property against any Person engaged in such infringement. If both Parties agree to so enforce such Joint Intellectual Property, they shall be jointly responsible for, and share equally, all the costs and expenses of any suit brought by them and shall equally share all recoveries with respect thereto. If one Party elects not to enforce such Joint Intellectual Property against such infringement, then the other Party shall have the right, but not the obligation, to take action to enforce such Joint Intellectual Property against such infringement at its own cost and expense and such other Party may retain all recoveries with respect thereto.

8.7 Cooperation. Each Party shall reasonably cooperate with the other Party in the Prosecution and Maintenance of the Intellectual Property, including Patent Rights, pursuant to this Agreement. Such cooperation includes promptly executing all documents, or requiring inventors, subcontractors, employees, former employees (to the extent reasonably available) and consultants and agents to execute all documents, as reasonable and appropriate, so as to enable the Prosecution and Maintenance or enforcement of any such Patent Rights in any country.

9. Confidentiality

9.1 Confidentiality; Exceptions. Except to the extent expressly authorized by this Agreement or otherwise agreed in writing or required as a condition of sublicense, the Parties agree that the receiving Party will keep confidential and will not publish or otherwise disclose or use for any purpose other than as provided for in this Agreement any Information furnished to it by the other Party pursuant to this Agreement (collectively, "Confidential Information"). Further, subject to Authorized Disclosures of Section 9.2, each Party shall keep the other Party's Confidential Information confidential until the information is no longer confidential or an exception below applies. To the extent that Zomedica will be conducting and funding the research pursuant to the Development Plan including the Clinical Validations and Approval, all information generated thereunder shall be the Confidential Information of Zomedica. Notwithstanding the foregoing, Confidential Information will not include any information to the extent that it can be established by written documentation by the receiving Party that such information:

(a) is obtained or was already known by the receiving Party or its Affiliates as a result of disclosure from a Third Party that the receiving Party neither knew nor should have known was under an obligation of confidentiality to the disclosing Party with respect to such information;

(b) was generally available to the public or otherwise part of the public domain at the time of its disclosure to the receiving Party through no act or omission of the receiving Party or its Affiliates in breach of this Agreement;

(c) became generally available to the public or otherwise part of the public domain after its disclosure and other than through any act or omission of the receiving Party or its Affiliates in breach of this Agreement; or

(d) is independently discovered or developed by the receiving Party or its Affiliates (without reference to or use of Confidential Information of the disclosing Party) as demonstrated by the receiving Party's documented evidence prepared contemporaneously with such independent Development or other equally competent evidence.

9.2 Authorized Disclosure. Except as expressly provided otherwise in this Agreement, each Party may use and disclose Confidential Information of the other Party solely as follows:

(a) Each Party or its Affiliates each may disclose Confidential Information that it has received hereunder to their Affiliates and to those of the personnel and subcontractors of them and their Affiliates who have a need to such information in order to carry out the work under the Development Plan, or allow Zomedica to Develop and commercialize the Collaboration Product(s) and who are themselves under a duty of confidentiality;

(b) under appropriate confidentiality provisions substantially equivalent to those in this Agreement: (i) in connection with the performance of its obligations or as reasonably necessary or useful in the exercise of its rights under this Agreement, and (ii) to the extent it believes such disclosure is reasonably necessary in conducting the activities contemplated under this Agreement;

(c) to the extent such disclosure is to a Governmental Authority as reasonably necessary in filing or prosecuting patent applications in accordance with this Agreement, prosecuting or defending litigation in accordance with this Agreement, complying with applicable governmental regulations with respect to performance under this Agreement, filing regulatory filings, obtaining Regulatory Approval or fulfilling post-approval regulatory obligations for a Collaboration Product, or otherwise required by Law, provided, however, that if a Party is required by Law or the rules of any securities exchange or automated quotation system to make any such disclosure of the other Party's Confidential Information it will, except where impracticable for necessary disclosures (for example, in the event of medical emergency), give reasonable advance notice to the other Party of such disclosure requirement and, in the case of each of the foregoing, will use its reasonable efforts to secure confidential treatment of such Confidential Information required to be disclosed;

(d) to advisors (including to its directors, managers, members, officers, employees, attorneys, accountants, bankers, financial advisors, subcontractors or consultants) or funding agencies (including that of any Government), to potential investors, financers, licensees/licensors, partners, collaborators, and parties involved in any other business transactions, including any mergers and acquisitions, who themselves would be under a duty of confidentiality or as may otherwise be required under applicable Law including any security laws, under appropriate confidentiality provisions or professional standards of confidentiality substantially equivalent to those of this Agreement; or

(e) to the extent mutually agreed to by the Parties.

9.3 Confidential Treatment of Terms and Conditions. Subject to the exceptions set out in Section 9.2, neither Party shall disclose the terms and conditions of this Agreement except as may be required by Law or as necessary to effect terms of this Agreement.

9.4 Attorney-Client Privilege. Neither Party is waiving, nor will be deemed to have waived or diminished, any of its attorney work product protections, attorney-client privileges or similar protections and privileges as a result of disclosing information pursuant to this Agreement, or any of its Confidential Information (including Confidential Information related to pending or threatened litigation) to the receiving Party, regardless of whether the disclosing Party has asserted, or is or may be entitled to assert, such privileges and protections. The Parties:

(a) share a common legal and commercial interest in such disclosure that is subject to such privileges and protections;

(b) may become joint defendants in proceedings to which the information covered by such protections and privileges relates;

(c) intend that such privileges and protections remain intact should either Party become subject to any actual or threatened proceeding to which the disclosing Party's Confidential Information covered by such protections and privileges relates; and

(d) intend that after the Effective Date both the receiving Party and the disclosing Party will have the right to assert such protections and privileges.

10. Representations, Warranties and Covenants

10.1 Mutual Representations and Warranties. In addition to the representations and warranties made by a Party elsewhere in this Agreement, each Party hereby represents and warrants to the other Party that:

(a) it is duly organized and validly existing under the Laws of its jurisdiction of organization and it has full corporate power and authority and has taken all corporate action necessary to enter into and perform this Agreement;

(b) It has duly executed and delivered this Agreement and this Agreement is a legal and valid and binding obligation upon such Party and enforceable in accordance with its terms subject only to bankruptcy, insolvency, liquidation, reorganization, moratorium and other similar laws generally affecting the enforcement of creditors' rights and to the fact that equitable remedies, such as specific performance and injunction, are discretionary remedies;

(c) the execution, delivery and performance of the Agreement by such Party does not (i) conflict with any agreement, instrument or understanding, oral or written, by which it is bound, including its organizational documents (ii) conflict with, violate or constitute a default or require any consent under any contractual obligation or court or administrative order by which such Party is bound or (iii) to its knowledge violate any Law; and the person or persons executing this Agreement on such Party's behalf have been duly authorized to do so by all requisite corporate action;

(d) it has sufficient legal right and/or beneficial title or ownership of its respective Intellectual Property (including Controlled Technology) to grant the licenses to the other Party as purported to be granted pursuant to this Agreement;

(e) there is no action, litigation or other proceeding in progress, pending or, to its knowledge threatened against it which might result in a material adverse change in its financial condition or which would materially adversely affect its ability to perform its obligations under this Agreement.

(f) All representations and warranties of the Parties will be correct as of the Effective Date and deemed to be continuously given throughout the Term. To the extent a Party becomes aware that any of the representations and warranties are no longer valid as of a date post- the Effective Date, it shall immediately notify the other Party of same.

(g) That as of the Effective Date, the Original Agreement was in full force and effect and that neither Party is aware of any breach or potential breach of the Original Agreement.

10.2 Celsee Representations, Warranties and Covenants. In addition to the representations and warranties made by Celsee above and elsewhere in this Agreement, Celsee hereby represents, warrants, and covenants to Zomedica that:

(a) As of the Effective Date, it has, or will have during the Term of this Agreement, the full right, power and authority to grant to Zomedica the licenses hereunder granted in this Agreement;

(b) As of the Effective Date, there is no suit or legal proceeding pending or threatened in writing with respect to the Background Intellectual Property and it is has no actual knowledge or notice of any infringement of Third Party Intellectual Property by it that would arise in conducting the activities contemplated by this Agreement; All Patents that have issued are valid and enforceable.

(c) As of the Effective Date, Celsee has not entered, and during the Term, will not enter, into any written agreement with a Third Party that conflicts with the rights granted to Zomedica hereunder or Celsee's ability to fully perform its obligations hereunder;

(d) Celsee has not entered into any written agreement with a Third Party to conduct research with respect to the Celsee Controlled Technology in the Zomedica Field and Celsee is not collaborating with any Third Parties for the Development of Products in the Zomedica Field;

(e) Subject to Section 10.2(d), as of the Effective Date, Celsee has not granted any rights to Third Parties to the Celsee Controlled Technology in the Zomedica Field or the Collaboration Product(s);

(f) Neither Celsee nor any of its Affiliates has been disbarred or is subject to debarment and neither Celsee nor any of its Affiliates shall use in any capacity in connection with the services to be performed under this agreement any person who has been debarred pursuant to Section 306 of the Food Drug and Cosmetic Act (21 U.S.C. 335a) (the "Act") or who is subject of a conviction described in such section. Celsee agrees to inform Zomedica in writing immediately if any person who is performing services on behalf of Celsee under this Agreement is debarred or is the subject of a conviction described in Section 306 of the Act or if any action, suit, claim, investigation or legal or administrative proceeding or to the knowledge of Celsee is threatened relating to the debarment or conviction of Celsee or any person performing services on behalf of Celsee under this Agreement.

(g) **Schedule B** accurately lists all Celsee Controlled Patent Rights as of the Effective Date which Schedule shall be updated annually during the Term by Celsee;

(h) That its representatives contributing and conducting activities under this Agreement on behalf of Celsee, including with respect to the Development Plan, all have assigned and have a duty to assign their rights and contributions with respect to any Technology or Intellectual Property developed pursuant to this agreement to Celsee and to no other party;

(i) That it has or will have the ability to and shall manufacture and supply the Collaboration Product(s), the Celsee Platform Technology and the CTC Consumable Packages in accordance with Laws (subject to Zomedica obtaining required regulatory approvals) and volumes forecasted pursuant to this Agreement and has sufficient contingency plans in place to so manufacture and supply.

10.3 Disclaimer of Warranties. EXCEPT AS OTHERWISE SET FORTH IN ARTICLE 10 OF THIS AGREEMENT, THE PARTIES EXPRESSLY DISCLAIM ANY AND ALL REPRESENTATIONS AND WARRANTIES, EXPRESS, IMPLIED, STATUTORY OR OTHERWISE, WITH RESPECT TO THE PATENT RIGHTS, INFORMATION AND ANY OTHER SUBJECT MATTER RELATING TO THIS AGREEMENT, INCLUDING ANY WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, VALIDITY OR NONINFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS.

10.4 Disclaimer of Prior Agreements. NOTWITHSTANDING ANYTHING TO THE CONTRARY HEREIN, PARTIES HEREBY ACKNOWLEDGE AND AGREE THAT THEY HAVE FULFILLED ALL OBLIGATIONS, PAYMENTS, AND DUTIES SET FORTH IN THE ORIGINAL AGREEMENT AND CRA. AS OF THE EFFECTIVE DATE, THE PARTIES HEREBY WAIVE, RELEASE, AND FOREVER DISCHARGE THE OTHER PARTY AND ITS OFFICERS, DIRECTORS, INVESTORS, PARTNERS, EMPLOYEES, ALL CLAIMS, AGENTS, LOSSES, AND LIABILITIES, DEBTS, AND EXPENSES (INCLUDNG ATTORNEY'S FEES) OF ANY NATURE WHATSOEVER, KNOWN OR UNKNOWN, SUSPECTED OR UNSUSPECTED, ARISING ON OR PRIOR TO THE DATE OF THIS AGREEMENT EXCEPT FOR WHICH ARISE FROM A PARTY'S GROSS NEGLIGENCE, WILLFUL MISCONDUCT, OR FRAUD.

11. Limitations of Liability; Insurance

11.1 Limitations of Liability. IN NO EVENT WILL EITHER PARTY BE LIABLE TO THE OTHER PARTY FOR ANY INDIRECT, SPECIAL, INCIDENTAL, EXEMPLARY, MULTIPLE, CONSEQUENTIAL, OR PUNITIVE DAMAGES OF ANY KIND ARISING OUT OF OR IN CONNECTION WITH THIS AGREEMENT, OR FOR ANY LOSS OR INJURY TO A PARTY'S PROFITS OR GOODWILL, HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY (WHETHER IN CONTRACT, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY OR OTHERWISE), EVEN IF SUCH PARTY WAS ADVISED OR OTHERWISE AWARE OF THE LIKELIHOOD OF SUCH DAMAGES, EXCEPT WITH RESPECT TO CONSEQUENTIAL DAMAGES (WHICH IN NO EVENT WILL INCLUDE ANY PUNITIVE DAMAGES) AWARDED TO A PARTY THAT THE NON-BREACHING PARTY DEMONSTRATES RESULTED FROM A BREACH OF SECTION 9.1 (CONFIDENTIALITY; EXCEPTIONS), OR SECTION 9.2 (AUTHORIZED DISCLOSURE). NOTHING IN THIS SECTION 11.1 (LIMITATIONS OF LIABILITY) IS INTENDED TO LIMIT OR RESTRICT THE INDEMNIFICATION RIGHTS OR OBLIGATIONS OF EITHER PARTY UNDER ARTICLE 12 (INDEMNIFICATION) WITH RESPECT TO ANY DAMAGES PAID BY THE OTHER PARTY TO A THIRD PARTY IN CONNECTION WITH A THIRD PARTY CLAIM.

11.2 Insurance. Each Party shall procure and maintain insurance, including product liability insurance, with respect to its activities hereunder and which are consistent with normal business practices of prudent companies similarly situated at all times during which any Collaboration Product is being clinically tested in animals or commercially distributed or sold. Each Party represents and warrants to the other Party that it has such insurance in effect as of the Effective Date and if requested by the other Party will provide the other Party a copy of the certificate of insurance evidencing such insurance on or prior to the Effective Date. It is understood that such insurance shall not be construed to create a limit of either Party's liability with respect to its indemnification obligations under Article 12. Each Party shall provide the other with written notice at least thirty (30) days prior to the cancellation, non-renewal or material change in such insurance or self-insurance which materially adversely affects the rights of the other Party hereunder.

12. Indemnification

12.1 Indemnification by Celsee. Celsee hereby agrees to defend, hold harmless and indemnify (collectively, "Indemnify") Zomedica and its Affiliates, and its and their directors, officers, employees, contractors and agents (collectively, the "Zomedica Indemnitees") from and against any liability or expense (including reasonable legal expenses, costs of litigation and attorneys' fees), damages, or judgments, whether for money or equitable relief (collectively, "Losses") resulting from suits, proceedings, claims, actions, demands, or threatened claims, actions or demands, in each case brought by a Third Party (each, a "Third Party Claim") against a Zomedica Indemnitee, including, for each of clauses (a), (b) and (c), below, bodily injury, risk of bodily injury, death (including death of a Companion Animal), property damage, and product liability Third Party Claims or the failure to comply with Law arising out of or relating to, directly or indirectly:

(a) Celsee's, its Affiliates or subcontractors' (collectively, the "Celsee Parties") activities, including Development activities, under the Development Plan and the manufacture, supply, transfer, labeling, handling or storage of the Collaboration Product;

(b) the Celsee Parties' negligence, recklessness, intentional misconduct or intentional acts or omissions; provided that the foregoing shall not apply to any action or omission undertaken at the direction or request of any Zomedica Indemnitee outside of the Development Plan; or

(c) Celsee's material breach of any duty, representation, warranty, obligation or covenant set out in this Agreement;

(d) Celsee's failure to supply Collaboration Product in accordance with forecasted volumes agreed to by the parties;

(e) Celsee's obligation to Indemnify the Zomedica Indemnitees pursuant to this Section 12.1 shall not apply to the extent that any such Losses (i) arise from the acts or omissions of any Zomedica Indemnitee; (ii) arise from any material breach by Zomedica of this Agreement; or (iii) arising out of Zomedica's activities under the Development Plan.

12.2 Indemnification by Zomedica. Zomedica hereby agrees to Indemnify Celsee and its Affiliates, and its and their directors, officers, employees, contractors and agents (the "Celsee Indemnitees") from and against any and all Losses resulting from Third Party Claims, including, for each of clauses (a), (b) and (c), below, bodily injury, risk of bodily injury, death, property damage, and product liability Third Party Claims or the failure to comply with Law arising out of or relating to, directly or indirectly:

(a) Zomedica's, its Affiliates', sublicensees', wholesalers', distributors' or sub-contractors' (collectively, the "Zomedica Parties") activities (including Development) under the Development Plan, use, Development, commercialization, transfer, labeling, handling or storage, promotion, marketing, distribution, offer for sale, sale, import or export of any Collaboration Product in the Territory;

(b) the Zomedica Parties' negligence, recklessness, intentional misconduct or intentional acts or omissions; provided that the foregoing shall not apply to any action or omission undertaken at the direction or request of any Celsee Indemnitee outside of the Development Plan; or

(c) Zomedica's material breach of any duty, representation, warranty or covenant set out in this Agreement.

(d) Zomedica's obligation to Indemnify the Celsee Indemnitees pursuant to the foregoing sentence shall not apply to the extent that any such Losses (i) arise from the acts or omissions of any Celsee Indemnitee; (ii) arise from any material breach by Celsee of this Agreement; or (iii) arising out of Celsee's activities under the Development Plan.

12.3 Claim for Indemnification. Whenever any Claim or Loss arises for which a Zomedica Indemnitee or a Celsee Indemnitee (the "Indemnified Party") may seek indemnification under this Article 12 (Indemnification), the Indemnified Party will promptly notify the other Party (the "Indemnifying Party") of the Claim or Loss and, when known, the facts constituting the basis for the Claim or Loss; provided, however, that the failure by an Indemnified Party to give such notice or to otherwise meet its obligations under this Section 12.3 (Claim for Indemnification) does not relieve the Indemnifying Party of its indemnification obligation under this Agreement except and only to the extent that the Indemnifying Party is actually prejudiced as a result of such failure. The Indemnifying Party has exclusive control of the defense and settlement of all Claims for which it is responsible for indemnification and shall assume the defense thereof at its own

expense promptly upon notice of such Claim or Loss. The Indemnified Party shall not settle or compromise any Claim by a Third Party for which it is entitled to indemnification without the prior written consent of the Indemnifying Party, unless the Indemnifying Party is in breach of its obligation to defend hereunder. In no event can the Indemnifying Party settle any Claim without the prior written consent of the Indemnified Party if such settlement does not include a complete release from liability on such Claim or if such settlement would involve undertaking an obligation other than the payment of money, would bind or impair the Indemnified Party, or includes any admission of wrongdoing or that any intellectual property or proprietary right of the Indemnified Party is invalid or unenforceable. The Indemnified Party shall reasonably cooperate with the Indemnifying Party at the Indemnifying Party's expense and shall make available to the Indemnifying Party reasonably requested information under the control of the Indemnified Party, which information is subject to Article 9 (Confidentiality). The Indemnifying Party shall permit the Indemnified Party to participate in (but not to control) the Third Party Claim through counsel of its choosing (to the extent it has the ability to do so). Notwithstanding any other provision of this subsection, if an Indemnified Party withholds consent to a bona fide settlement offer, where but for such action, the Indemnifying Party could have settled such Claim, the Indemnifying Party shall be required to indemnify the Indemnified Party only up to a maximum of the bona fide settlement offer for which the Indemnifying Party could have settled such Claim.

12.4 Limitation of Indemnification. Celsee's liability for indemnification pursuant to Section 12.1, and Zomedica's liability for indemnification pursuant to Section 12.2 herein, shall be limited in total and in the aggregate to an amount equal to [*].

13. Term and Termination

13.1 Term. This Agreement shall commence as of the Effective Date and, unless sooner terminated in accordance with the terms hereof shall extend for five (5) years (the "Initial Term") and automatically renewal for additional two-year terms (such time period collectively referred to as the "Term") unless (i) either Party within two years prior to the expiration of the then current term provides written notice of its intent not to renew or (ii) the Agreement is terminated pursuant to Sections 13.2 or 13.3 below.

13.2 Termination by both Parties.

(a) Either Party may terminate this Agreement upon written notice to the other Party:

(i) Material Breach. By the non-breaching party in the event of any material breach by a Party of this Agreement; provided that the non-breaching Party provides notice of such breach to the other Party specifying the nature of the alleged breach and such breach has not been cured by the breaching Party within thirty (30) days after such notice thereof; and/or

(ii) Mutual Consent. By mutual written consent of the Parties.

13.3 Termination for Insolvency or Bankruptcy.

(a) Insolvency Event; Definition. Either Party may terminate this Agreement in its entirety upon providing written notice to the other Party on or after the time that such other Party makes a general assignment for the benefit of creditors, files an insolvency petition in bankruptcy or makes a voluntary assignment in bankruptcy, petitions, applies for or acquiesces to the appointment of any receiver, receiver and manager, interim receiver, trustee or similar officer or official to liquidate or conserve its business or any substantial part of its assets, commences under the laws of any jurisdiction any proceeding involving its insolvency, bankruptcy, reorganization, adjustment of debt, dissolution, liquidation or any other similar proceeding for the release of or other relief for financially distressed debtors, or becomes a party to any proceeding or action of the type described above and not dismissed within ninety (90) days of filing or released within ninety (90) days of the event(each, an "Insolvency Event").

(b) Bankruptcy Laws.

(i) All rights and licenses granted to Zomedica under or pursuant to this Agreement, including, for the avoidance of doubt, the licenses granted to Zomedica pursuant to this Agreement, are, and shall otherwise be deemed to be, for purposes of Section 32(6) of the *Companies' Creditors Arrangement Act* (Canada) ("CCAA"), Section 65.11(7) of the *Bankruptcy and Insolvency Act* (Canada) ("BIA") or for purposes of Section 365(n) of the U.S. Bankruptcy Code, if applicable, and other similar laws in any jurisdiction outside of Canada (collectively, the "Bankruptcy Laws"), licenses of rights to "intellectual property" as contemplated under the Bankruptcy Laws including, licenses of right to "intellectual property" as defined under Section 101 of the U.S. Bankruptcy Code.

(ii) Upon the occurrence of any Insolvency Event with respect to Celsee (the "Insolvent Party"), Celsee agrees that Zomedica, as licensee of such rights under this Agreement, shall retain and may fully exercise all of its rights and elections under the Bankruptcy Laws.

(iii) Further, it is the intention of the Parties that if either party becomes insolvent, the other party shall have an exclusive option, exercisable upon written notice to the other party, to negotiate a paid-up license to any intellectual property necessary to independently continue commercialization of the Collaboration Product(s), including the Celsee CTC Platform Technology and Celsee Immunochemistry Consumable Package(s) in the Zomedica Field.

(iv) Further, each Party agrees and acknowledges that all payments hereunder, other than the milestone payments pursuant to Section 7.1 do not constitute "obligations owing under the agreement in relation to the use of the intellectual property" as contemplated by Section 32(6) of the CCAA or Section 65.11(7) of the BIA or 365 (n)(2)(B) of the US Bankruptcy Code or relate to licenses of intellectual property hereunder.

(v) Each Party shall, during the term of this Agreement, create and maintain current copies or, if not amenable to copying, detailed descriptions or other appropriate embodiments, to the extent feasible, of all such intellectual property.

(vi) Each Party agrees and acknowledges that "intellectual property" as contemplated by the Bankruptcy Laws include laboratory notebooks, cell lines, product samples and inventory, research studies and data, regulatory approvals and regulatory materials in each case to the extent related to the Collaboration Products.

(vii) It is the intention of the parties that if:

(A) a case or proceeding is commenced during the Term by or against Celsee under the Bankruptcy Laws;

(B) this Agreement is disclaimed as provided for under the Bankruptcy Laws; and

(C) Zomedica elects to retain its rights hereunder as provided for under the Bankruptcy Laws or otherwise,

then Celsee (in any capacity) and its successors and assigns (including a receiver, interim receiver or trustee in bankruptcy and any assignee thereof of any right or power of attorney that Celsee may have or may exercise under, or in connection with, this Agreement), shall (i) provide to Zomedica immediately upon Zomedica's written request copies of all such intellectual property (including embodiments thereof) held by Celsee and such successors and assigns, or otherwise available to them, and (ii) not interfere with Zomedica's rights under this Agreement, or any related agreements between the Parties, to such intellectual property (including such embodiments), including any right to obtain such intellectual property (or such embodiments) from another entity.

(viii) Whenever Celsee or any of its successors or assigns provides to Zomedica any of the intellectual property licensed hereunder (or any embodiment thereof) pursuant to this Section 13.3, Zomedica shall have the right to perform Celsee's obligations hereunder with respect to such intellectual property, but neither such provision nor such performance by Zomedica shall release Celsee from liability resulting from disclaimer of the license or the failure to perform such obligations.

(ix) All rights, powers and remedies of Zomedica as provided herein are in addition to and not in substitution for any and all other rights, powers and remedies now or hereafter existing at law or in equity (including the Bankruptcy Laws) in the event of the commencement of a case or proceeding by or against Celsee under the Bankruptcy Laws.

(x) In particular, it is the intention and understanding of the Parties that the rights granted to Zomedica under this Section 13.3 are essential to the Parties' respective businesses and the Parties acknowledge that damages are not an adequate remedy.

(xi) The Parties agree that they intend the following rights to extend to the maximum extent permitted by applicable Law, and to be enforceable under Section 32(6) of the CCAA and Section 65.11(7) of the BIA and the relevant provisions of the US Bankruptcy Code:

(A) the right of access to any intellectual property (including embodiments thereof) of Celsee, or any Third Party with whom Celsee contracts to perform an obligation of Celsee under this Agreement, and, in the case of the Third Party, which is necessary for the exploitation of Collaboration Products;

(B) the right to contract directly with any Third Party to complete the contracted work upon failure of Celsee to comply with its applicable obligations; and

(C) in favor of Zomedica, the right to the benefit of the exercise of any power of attorney held by Celsee to grant to Zomedica the rights and licenses provided in this Agreement.

(xii) Further, it is the intention of the Parties that this Agreement, even if not disclaimed, be binding on any party that purchases the intellectual property licensed to Zomedica, or any power of attorney that permits such license to Zomedica, pursuant to any Bankruptcy Laws, notwithstanding any approval and vesting order that may be issued in respect of such intellectual property or power and that Zomedica receive reasonable prior notice of any motion brought pursuant to any Bankruptcy Laws to approve such sale. For greater certainty, nothing herein shall be construed as a waiver of any right that Zomedica may have to object to such sale, including on the basis that such sale of intellectual property or power is contrary to the terms of this Agreement.

13.4 Effect of Termination or Expiration.

(a) Prior to Clinical Validation. Prior to Clinical Validation, upon the effective date of termination or expiration of the Term, except as otherwise expressly provided herein, all rights and obligations of each Party with respect to the whole Agreement or to those Collaboration Products which are the subject of the termination shall cease, including all rights and licenses granted by a Party to the other Party with respect to same. Each Party shall return to the other their respective Confidential Information and Controlled Intellectual Property and Materials (provided that each Party may keep one copy of such Confidential Information for archival purposes only).

(b) The Parties shall use Commercially Reasonable Efforts and cooperate to diligently wind down, according to good clinical and industry practice, any clinical trials that are ongoing for Collaboration Product(s) in the Territory at the time of notice of such termination and to assure a smooth termination transition with respect to the Collaboration Product trials being conducted by or on behalf of Zomedica (or its Affiliate or sublicensee) at the time of notice of

termination which Zomedica determines to continue in compliance with the Laws and ethical guidelines applicable to the transfer or termination of such studies and commercial activities, if any, provided that nothing herein shall require Zomedica to undertake any new Development, manufacture or commercialization or other activities.

(c) Upon termination of this Agreement, the parties shall pay each other the entire amount of any financial commitments incurred by a Party prior to termination even if those financial commitments come due after termination in accordance with the Development Plan Budget that exceed amounts paid by the owing party to the other party hereunder prior to such termination and cannot be canceled; except that the owing party shall only be responsible for paying [*]. Upon receipt of notice of termination, to the extent possible, the parties shall promptly terminate any outstanding commitments and avoid incurring any further costs under the Development Plan. No later than [*] after the effective date of termination or expiration of the Term, unless another period is agreed to in writing by the Parties, the Party may provide an invoice to the other Party in respect of the final payment due and payable. The owing Party shall pay all such amounts no later than [*] after receipt of such invoice. Notwithstanding the foregoing, it is understood that, in no event shall the funds payable exceed the maximum amount set forth in the Development Plan Budget or any supply order. In addition, within [*] after such effective date of termination each Party shall provide the other with a final accounting for all Development Plan Budget and supply orders. Should the final accounting indicate an amount is due to a Party, such final payment will be made in accordance with Section 7.1. If the final accounting indicates an overpayment the party which received the overpayment shall refund such overpayment to the other Party within [*] of the final accounting.

(d) Accrued Rights. Expiration or termination of this Agreement (or any provision hereof) for any reason is without prejudice to any right that shall have accrued to the benefit of a Party prior to such expiration or termination, including damages arising from any breach under this Agreement. Expiration or termination of this Agreement does not relieve a Party from any obligation that is expressly indicated to survive such expiration or termination.

13.5 Non-Exclusive Distribution Rights for the Post-Term Period.

(a) Notwithstanding anything to the contrary, in the event of any expiration or termination of this Agreement, other than termination by Celsee for Zomedica's uncured material breach under Section 13.2 (a)(i), termination by mutual agreement under 13,2 (a)(ii) or termination prior to Clinical Validation under 13.4(a), and provided that Zomedica has made all required payments under Section 7.1 and has issued all stock to be issued under Section 7.2: (A) Zomedica may continue to distribute, market and promote sales of the CTC Consumable Package for use in the Zomedica Field in the Territory on a non-exclusive basis for a period of [*] from the effective date of such expiration or termination (the "Post Term Period"), and (B) Celsee will continue to supply the CTC Consumable Package products to Zomedica during the Post Term Period at the pricing set forth in this Agreement; in each case, subject to the terms and conditions of this Section

13.5. Notwithstanding the foregoing, if Zomedica fails to purchase CTC Consumable Package Products during the Post Term Period for [*], all licenses and rights to purchase CTC Consumable Package Products during the Post Term Period shall immediately terminate. Subject to the foregoing, all provisions of this Agreement will continue to apply during the Post Term Period, with the following exceptions:

(i) the license granted to Zomedica pursuant to Section 6.2 shall automatically convert to non-exclusive during the Post Term Period;

(ii) Section 2.1 ("Exclusivity") shall not apply during the Post Term Period;

(iii) the rights granted to Zomedica pursuant to Section 4.2(a) ("Manufacturing and Product Supply") shall automatically convert to non-exclusive during the Post Term Period;

(iv) Section 13.3(b) ("Bankruptcy License Option") shall not apply during the Post Term Period.

13.6 Survival. The following provisions shall survive termination or expiration of this Agreement: Sections 7, 8, 9, 10, 11, 12, 13.4,, 14 and 15 and Section 1 to the extent necessary to give effect to the foregoing. In addition, except as provided in Section 13.5, all other provisions of this Agreement shall survive the expiration or termination of this Agreement until the end of the Post Term Period.

14. Dispute Resolution

14.1 Discussion by Senior Executives. If there is an unresolved matter, dispute or issue arising out of or relating to the existence, negotiation, validity, formation, interpretation, breach, performance or application of this Agreement (each, a "Dispute") for which neither Party has the final decision making authority as expressly provided elsewhere in this Agreement, either Party will refer such Dispute to their respective Presidents (such persons, the "Senior Executives"), or their designee(s), in writing for further discussion and resolution. These individuals shall as soon as practicable meet and attempt in good faith to resolve the Dispute and reach agreement. These individuals may obtain the advice of other employees or consultants as they deem necessary or advisable in order to make the decision. If these individuals cannot reach agreement as to the Dispute within thirty (30) days of the Dispute being referred to them, then such Dispute will be resolved as set out in this Article 14.

14.2 Mediation and Arbitration. If the Senior Executives are not able to resolve such Dispute referred to them under Section 14.1 within thirty (30) days, the Parties shall first refer such Dispute to proceedings under the International Chamber of Commerce ("ICC") Mediation Rules. If the dispute has not been settled pursuant to the said Rules within forty-five (45) days following the filing of a Request for Mediation or within such other period as the parties may agree in writing, such dispute shall thereafter be finally settled under the Rules of Arbitration of the International Chamber of Commerce by one or more arbitrators appointed in accordance with the said Rules of Arbitration. Except to the extent necessary to confirm an award or as may be required by law, neither Party nor any arbitrator may disclose the existence, content, or results of an arbitration without the prior written consent of both parties.

14.3 Patent Dispute Resolution. Any Dispute relating to the ownership, scope, validity, enforceability or infringement of any Patent Rights shall be submitted to a court of competent jurisdiction in which such Patent Rights exist.

14.4 Payment Dispute Resolution. Notwithstanding the provisions of Section 14.2, any dispute, controversy or claim relating to a payment made pursuant to this Agreement shall be submitted for resolution to a member (the "Arbitrator") of an accounting firm of national standing selected by both Parties (and which shall not be the auditor of either of the Parties) within thirty (30) days after notice of the dispute is received or deemed to be received by a Party. If the Parties cannot agree on an Arbitrator, the provisions of Section 14.2 shall apply. The Parties shall make submissions to the Arbitrator within ninety (90) days after the selection of the Arbitrator and the Arbitrator will select one Party's submission. If the Parties cannot agree on a member of the accounting firm, the provisions of Section 14.2 shall apply. The decision of the Arbitrator in selecting on Party's submission shall be final and binding on both Parties.

14.5 Waiver. EACH PARTY HERETO (1) WAIVES ITS RIGHT TO TRIAL UNDER ANY ISSUE BY JURY WITH RESPECT TO ANY DISPUTE BROUGHT UNDER THIS AGREEMENT, (2) WITH THE EXCEPTION OF RELIEF MANDATED BY STATUTE, ANY CLAIM TO PUNITIVE, EXEMPLARY, MULTIPLIED, INDIRECT, CONSEQUENTIAL OR LOST PROFITS/REVENUES DAMAGES, AND (3) ANY CLAIM FOR ATTORNEY FEES, COSTS AND PREJUDGMENT INTEREST.

15. Miscellaneous.

15.1 Affiliates and Designees. Each Party has the right to exercise their respective rights, perform their respective obligations and/or receive performance of the other Party's obligations hereunder through their Affiliates or sublicensees.

15.2 Assignment.

(a) Neither this Agreement nor any rights or obligations hereunder may be assigned or otherwise transferred (whether by operation of Law, general succession or otherwise) by either Party without the prior written consent of the other Party, said consent not to be unreasonably withheld.

(b) The above notwithstanding, either party may, without the other party's consent, assign such rights: (i) to an Affiliate; (ii) in connection with the transfer or sale of all or substantially all of the business of such Party to which the Agreement relates to a third party, whether by merger, sale of stock, sale of assets or otherwise; and (iii) in connection with a Change of Control.

(c) The rights and obligations of the parties under this Agreement shall be binding upon and enures to the benefit of the Parties and their respective successors and permitted assigns. The Parties shall promptly notify the other Party of any transfer under said Section 15.2 or any Change of Control.

15.3 Counterparts. This Agreement may be executed in counterparts with the same effect as if both Parties had signed the same document. All such counterparts will be deemed an original, will be construed together and will constitute one and the same instrument. Signature pages of this Agreement may be exchanged by facsimile or other electronic means without affecting the validity thereof.

15.4 No *Contra Proferentem*. This Agreement has been reviewed by each Party's professional advisors, and revised during the course of negotiations between the Parties. Each Party acknowledges that this Agreement is the product of their joint efforts, that it expresses their agreement, and that, if there is any ambiguity in any of its provisions, no rule of interpretation favoring one Party over another based on authorship will apply.

15.5 Entire Agreement. This Agreement, including the attached Schedules constitutes the entire agreement between the Parties as to the subject matter of this Agreement, and supersedes and merges all prior discussions, representations, agreements including the Original Agreement and understandings regarding the same.

15.6 Time is of the Essence. Time is of the essence in all respects of this Agreement.

15.7 Force Majeure. Neither Party is liable for a delay or failure in the performance of any of its obligations hereunder (other than the payment of money) if such delay or failure is due to causes beyond its reasonable control, including acts of God, fires, floods, earthquakes, labor strikes, acts of war, terrorism or civil unrest ("Force Majeure"); provided, however, that the affected Party notifies the other Party in writing within thirty (30) days of the Force Majeure event (and continues to provide monthly status updates to the other Party for the duration of the effect); further provided that the affected Party will use its reasonable efforts to avoid or remove such causes of non-performance and to mitigate the effect of such occurrence, and will continue performance with reasonable dispatch whenever such causes are removed.

15.8 Further Assurances. Each Party agrees to do and perform all such further acts and things and will execute and deliver such other agreements, certificates, instruments and documents necessary or that the other Party may reasonably request in order to carry out the intent and accomplish the purposes of this Agreement and to evidence, perfect or otherwise confirm its rights hereunder.

15.9 Headings. Headings and captions are for convenience only and are not to be used in the interpretation of this Agreement.

15.10 Notices. Any notice required or permitted to be given by this Agreement will be in writing, in English, and will be delivered by hand or overnight courier with tracking capabilities or transmitted by confirmed facsimile, charges (if any) prepaid and addressed as set forth below unless changed by notice so given:

If to CELSEE:

Celsee, Inc.
100 Phoenix Drive, Suite 321
Ann Arbor, MI 48108
USA

Attn: John Stark
Title: President & CEO
Facsimile:
Email: john.stark@celsee.com

If to Zomedica:

100 Phoenix Drive, Suite 190
Ann Arbor, MI 48108
USA
Attn: Shameze Rampertab
Title: Interim CEO and CFO

E-mail: srampertab@zomedica.com

Any such notice will be deemed given or made and received on the date delivered provided that if that day is not a Business Day then the notice will be deemed to have been given or made and received on the next Business Day. A Party may add, delete (so long as at least one person is remaining), or change the person or address to which notices should be sent at any time upon written notice delivered to the other Party in accordance with this Section 15.10 (Notices).

15.11 Relationship of the Parties. Each Party is an independent contractor under this Agreement. Nothing contained herein is intended or is to be construed so as to constitute Zomedica and Celsee as partners, agents or joint venturers. Neither Party has any express or implied right or authority to assume or create any obligations on behalf of or in the name of the other Party or to bind the other Party to any contract, agreement or undertaking with any Third Party.

15.12 Severability. If any one or more of the provisions of this Agreement is held to be invalid or unenforceable, the provision will be considered severed from this Agreement and will not serve to invalidate any remaining provisions hereof. The Parties will negotiate in good faith to replace any invalid or unenforceable provision with a valid and enforceable one such that the objectives contemplated by the Parties when entering this Agreement may be realized.

15.13 Third Party Beneficiaries. Except as expressly provided with respect to Celsee Indemnitees or Zomedica Indemnitees in Article 12 (Indemnification) (for whom Celsee and Zomedica, respectively, hold such rights in trust), there are no third-party beneficiaries intended hereunder and no Third Party will have any right or obligation hereunder.

15.14 Waivers and Modifications. The failure of any Party to insist on the performance of any obligation hereunder is not be deemed to be a waiver of such obligation. Waiver of any breach of any provision hereof is not be deemed to be a waiver of any other breach of such provision or any other provision on such occasion or any other occasion. No waiver, modification, release or amendment of any right or obligation under or provision of this Agreement will be valid or effective unless in writing and signed by all Parties hereto.

15.15 Vienna Convention. The *United Nations Convention on Contracts for the International Sale of Goods* (also called the Vienna Convention) will not be applicable to this Agreement or the transactions contemplated by this Agreement.

15.16 Governing Law. This Agreement and any dispute hereunder will be governed by the laws of the state of Delaware and the federal laws of the United States of America applicable therein. Subject to the provisions of Section 14, the Parties attorn to the non-exclusive jurisdiction of the courts of Michigan.

THE REMAINDER OF THIS PAGE IS INTENTIONALLY LEFT BLANK

IN WITNESS WHEREOF, the Parties have executed this Agreement by proper persons thereunto duly authorized as of the Effective Date set forth above.

CELSEE, Inc.

By: /s/ John Stark
Title: Chief Executive Officer
Date: January 17, 2020

Zomedica Pharmaceuticals Corp.

By: /s/ Shameze Rampertab
Title: Interim Chief Executive Officer and Chief Financial Officer
Date: January 17, 2020

Certain identified information has been excluded from this exhibit because it is both (i) not material and (ii) would likely cause competitive harm to the registrant if publicly disclosed. [*] indicates that information has been redacted.

SCHEDULE A

[*]

Certain identified information has been excluded from this exhibit because it is both (i) not material and (ii) would likely cause competitive harm to the registrant if publicly disclosed. [*] indicates that information has been redacted.

SCHEDULE B
CELSEE PATENT RIGHTS

[*]

SCHEDULE C
COMPLIANCE SCHEDULE AND CODE OF CONDUCT

COMPLIANCE WITH LAWS INCLUDING FCPA/CFPOA AND HIPAA/PIPEDA

1.1. Each Party acknowledges that the other Party aims to perform its activities, and to have parties who enter into business arrangements with them to perform their activities under such arrangements, in accordance with the highest ethical standards and best industry practices, including without limitation any voluntary codes of practice applicable in the industry for the research. Each Party agrees to use commercially reasonable efforts to help ensure that the other Party does not fail to meet such aim with respect to activities hereunder through any violation of the Canadian Corruption of Foreign Public Officials Act (the "CFPOA") or the U.S. Foreign Corrupt Practices Act (the "FCPA"), as applicable.

1.2. Each Party shall comply with all applicable Laws concerning its efforts in any country or jurisdiction where it is providing work hereunder or otherwise applying to any of its activities under this Agreement. Neither party shall perform any actions that are prohibited by local and other anti-corruption laws, including the CFPOA or the FCPA (collectively "Anti-Corruption Laws") that may be applicable to one or both parties to the Agreement. Without limiting the foregoing, neither party shall make any payments, or offer or transfer anything of value, to any government official or government employee, to any political party official or candidate for political office or to any other third party related to the transaction in a manner that would violate Anti-Corruption Laws.

1.3. Health Care Professionals Engaged on Behalf of Each Party. "Health Care Professional" or "HCP" is defined as (i) any person who is licensed by a province or state to provide health care services directly or indirectly to patients, such as a physician, a nurse, a technician, a psychologist, or a lab specialist and/or (ii) any person or organization to whom Zomedica markets its products and services that is in a position to influence the selection of the products furnished or purchased, including but not limited to hospitals and health systems, administrators, procurement personnel, group purchasing organizations, pharmacy benefit managers, and business people. In the case of use of animals, Health Care Professional includes and Veterinarian assistants and technicians.

1.4. Compliance Obligations Related to Engagement of Health Care Professionals. If applicable, the Parties shall, with respect to each HCP engaged under this Agreement or the Development Plan:

a. ensure that the HCP's services are provided in compliance with all applicable laws and regulations, including but not limited to: Laws pertaining to the promotion of products regulated by (i) the Health Canada or the United States Food and Drug Administration (FDA), (ii) the Canadian Competition Bureau or the U.S. Federal Trade Commission, and (iii) other state, provincial or federal regulatory agencies; laws, regulations and guidance pertaining to federal, provincial and state anti-kickback and submission of false claims to governmental or private health care payors, or (iv) applicable analogous or corresponding laws of the applicable jurisdiction (collectively, "Health Care Compliance" or "HCC"); provincial, state and federal laws and regulations relating to the protection of individual and patient privacy; and any other laws and regulations applicable to such services;

b. ensure that HCP's services are provided in compliance with each Party's written policies and procedures of which the other Party is provided notice, including, but not limited to, applicable policies and procedures related to the U.S. FDA and Health Care Compliance, Health Canada, the Canadian *Food and Drugs Act and Regulations,* the Canadian *Personal Information Protection and Electronic Documents Act* ("PIPEDA"), substantially similar provincial legislation and the protection of individual and patient privacy;

c. ensure that each HCP is:

(i) not excluded from a U.S. Federal health care program as outlined in Sections 1128 and 1156 of the Social Security Act (see the Office of Inspector General of the Department of Health and Human Services List of Excluded Individuals/Entities at http://www.oig.hhs.gov/FRAUD/exclusions/listofexcluded.html) or any Canadian health care or animal care programs;

(ii) not debarred by the U.S. FDA under 21 U.S.C. 335a (see the FDA Office of Regulatory Affairs Debarment List at http://www.fda.gov/ora/compliance_ref/debar/);

(iii) not otherwise excluded from contracting with the U.S. federal government (see the Excluded Parties Listing System at http://epls.arnet.gov) to the extent that foreign entities are not restricted from contracting with the U.S. federal government or the Canadian federal or provincial governments; and

(iv) for HCPs (including veterinarians) who are health care practitioners, duly licensed in the state or province where he or she is currently practicing and not on probation and have never been on probation with the agency or board or college responsible for his or her licensure;

d. ensure that each HCP is qualified and authorized to perform the services as may be agreed to by Celsee and Zomedica in the Development Plan, or required by Law or any applicable authority, including, but not limited to, any required ethics or other authorizations from federal, state, provincial or local government agencies for HCPs who are employees of such agencies. Also, Each Party shall ensure that each HCP is not limited in providing these services by any obligation to third parties; and

e. compensate each HCP the fair market value for his/her services, based on the services provided, and in a manner that does not take into account the volume or value of any prescriptions, referrals or business generated among the parties.

1.5 Promotion of Zomedica's products. Celsee shall not make any representation relating to Zomedica's products or to Zomedica's clinical (animal) outcomes, unless such representations have been reviewed and approved in advance by Zomedica. Celsee further agrees that, in the event that Celsee fails to observe any limitations imposed by the Zomedica on such product representations or representations concerning clinical outcomes, Zomedica shall have the right to immediately terminate this Agreement.

1.6 Protected Health Information under the Canadian PIPEDA, substantially similar provincial legislation such as the Ontario *Personal Health Information Protection Act, 2004* and the U.S. HIPAA. If applicable, in the event that the Development Plan requires the use or disclosure of Personal Health Information or Protected Health Information (as defined under PIPEDA, substantially similar provincial legislation or the U.S. HIPAA Privacy Requirements or analogous legislation of the applicable jurisdiction) by HCPs, each Party shall ensure that the program complies with any applicable privacy laws, including as applicable the PIPEDA (and substantially similar provincial legislation, such as the Ontario *Personal Health Information Protection Act, 2004*) and HIPAA Privacy Requirements that apply to such Personal Health Information or Protected Health Information. The "HIPAA Privacy Requirements" refer collectively to the applicable provisions of the Administrative Simplification section of HIPAA - the Health Insurance Portability and Accountability Act of 1996, (as codified at 42 U.S.C. § 1320d - d-8) and any regulations promulgated there under, including without limitation, the federal privacy regulations (45 CFR Parts 160 and 164) and the federal security standards (45 CFR Part 142).

1.7 Consent to Use and Disclose Information. If applicable, in the event that the Development Plan requires direct interactions with patients, consumers or caregivers, each Party shall obtain written consent from any such person providing each Party the right to use and disclose the information collected from such persons, as set forth in the Development Plan. To the extent that the Development Plan or activities requires testing or application to animals, then the Parties shall comply with the applicable Laws and highest ethical standards governing animal testing and welfare, such as in the United States, the Animal Welfare Act of 1966 ("AWA"), and the Animal Welfare Regulations and provide for an Institutional Animal Care and Use Committee ("IACUC").

Certain identified information has been excluded from this exhibit because it is both (i) not material and (ii) would likely cause competitive harm to the registrant if publicly disclosed. [*] indicates that information has been redacted.

SCHEDULE D
CUSTOMER SERVICE REQUIREMENTS

[*]

Certain identified information has been excluded from this exhibit because it is both (i) not material and (ii) would likely cause competitive harm to the registrant if publicly disclosed. [*] indicates that information has been redacted.

SCHEDULE E
QUALITY CONTROL

[*]

Exhibit 10.32

LEASE SUMMARY

When used in this Lease, the following terms shall have the indicated meanings:

A. **Effective Date:** January 9, 2020

B. **Landlord:** Wickfield Phoenix LLC, a Michigan limited liability company

C. **Landlord's Notice Address:** Wickfield Phoenix LLC
c/o Wickfield Properties LLC
230 Huronview Blvd.
Ann Arbor, MI 48103
(734) 369-2100

D. **Tenant:** Zomedica Pharmaceuticals Inc., a Delaware corporation

E. **Tenant's Notice Address:** 180 Phoenix Drive
Ann Arbor, MI 48108
Attn: Shameze Rampertab

F. **Premises:** Sixteen Thousand Two Hundred and Twenty-Six (16,226) rentable square feet of rentable office space, including common area load, on the first floor of the East Building, which space is designated as Suites W180 and E125 outlined on Exhibit A attached hereto and made a part hereof.

G. **Building:** The building commonly known as The Wickfield Center, East Tower, located at 100 Phoenix Drive in City of Ann Arbor, County of Washtenaw, State of Michigan.

H. **Term:** A period of sixty months (60) months commencing on the Lease Commencement Date, as may be extended pursuant to the terms of Section 28 hereof.

I. **Anticipated Occupancy Date:** February 1, 2020

J. **Lease Commencement Date:** February 1, 2020

K. **Rent Commencement Date:** February 1, 2020

L. **Lease End Date:** January 31, 2025

M. **Base Annual Rent:** Base Annual Rent for the initial Term of this lease shall be $2,067,504.90 in lawful money of the United States. Tenant shall pay Rent to Landlord in monthly installments as follows:

Term	$/SQ.FT	Monthly	Annually
	16,226		
(1) Months 1-12	$24.00	$32,452.00	$389,424.00
(2) Months 13-24	$24.72	$33,425.56	$401,106.72
(3) Months 25-36	$25.46	$34,428.33	$413,139.92
(4) Months 37-48	$26.23	$35,461.18	$425,534.12
(5) Months 49-60	$27.01	$36,525.01	$438,300.14
TOTAL BASE RENT			**$2,067,504.90**

Payments shall be made to Landlord, or its authorized agent, at **230 Huronview Blvd., Ann** Arbor, MI 48103, or at such other place as Landlord may from time to time designate.

N. **Additional Rent:** Tenant's Proportionate Share of Expenses and Taxes over Base Year. Tenant's Proportionate Share of Utilities.

O. **Base Year:** 2019

P. **Tenant's Proportionate Share:** Four and 96/100 percent (4.96%). Tenant's Proportionate Share is calculated by dividing the total rentable square footage in the Premises by the Building's total rentable square footage.

Q. **Landlord's Broker:** Wickfield Properties LLC

R. **Lease Month:** Each calendar month period beginning on the Lease Commencement Date, and each successive calendar month thereafter.

S. **List of Exhibits:**

Exhibit A – Floor Plan
Exhibit B – Tenant Space Finish Work
Exhibit C – Rules and Regulations

LEASE AGREEMENT

THIS LEASE AGREEMENT ("**Lease**") is made as of the Effective Date by and between Landlord and Tenant.

WITNESSETH:

1. Premises. For and in consideration of the covenants and agreements hereinafter set forth and the rent hereinafter specifically reserved, Landlord does hereby lease unto Tenant, and Tenant does hereby lease from Landlord the Premises in the Building. Tenant shall also have the non-exclusive right during the Term to use the Common Areas of the Building and the land on which the Building is situated (the "**Land**"). As used herein, "Common Areas" shall mean all portions of the Building and the Land intended for the use by two or more occupants of such Building or Land or their visitors, including without limitation all sidewalks, lobbies, stairways, corridors, passageways, atria, doors, doorways, elevators, common restrooms, loading areas, and all other public parts of such Building. Landlord hereby represents and warrants that, as of the Effective Date, the base Building systems serving the Demised Premises are in good working order.

2. Term. This Lease shall continue in force during the Term. Should the Lease Commencement Date fall on a date other than the first day of a month, Tenant shall occupy the Premises on the "Occupancy Date" and the Lease Commencement Date shall be deemed to be the first day of the following month. Tenant shall occupy the Demised Premises on the terms and conditions contained herein, except that the Base Annual Rent for the partial first month of occupancy shall be prorated based on the number of days following the Occupancy Date and preceding the Lease Commencement Date.

3. Rent.

a. Base Rent. Commencing on the Lease Commencement Date, Tenant shall pay to Landlord the Base Annual Rent. Said Base Annual Rent shall be paid in twelve equal monthly installments on the first (1st) day of each and every month during the Term, with appropriate proration for the first and last months.

b. Additional Rent-Utilities: If Premises are not sub-metered, Tenant shall be responsible for its Proportionate Share of Building electric, gas, water/sewer-storm water runoff consumption and waste removal services. The amount of Tenant's share shall be prorated such that Tenant shall pay for a percentage of utilities that is equivalent to the portion of the Building that it occupies as adjusted by Landlord's reasonable estimate of the utilities expense had one hundred (100%) of the Building been furnished said services. The obligation of the Tenant to pay for such costs shall commence as of the Possession Date. If the Landlord is billed for any utility costs subsequent to the Possession Date of this Lease the Tenant agrees to reimburse the Landlord for such costs upon presentation by Landlord of an accounting of the costs incurred.

c. Additional Rent – Expenses, Taxes: Tenant shall be responsible for its Proportionate Share of Building Expenses and Taxes over the 2019 Base Year. The amount of Tenant's shall be adjusted from time to time by Landlord's reasonable estimate. Within 120 days from the end of the previous calendar year, or as soon as what is reasonable for Landlord, Landlord shall provide Tenant with a reconciliation of the prior year Expenses and Taxes. If reconciliation shows Tenant owes further Additional Rent, it shall submit payment to Landlord within 30 days of receiving said reconciliation. If Tenant is owed a credit based on said reconciliation, Landlord will issue a credit to Tenant in said amount.

i. The following terms are defined below:

(a) The term "Expenses" shall mean the actual cost incurred by Landlord with respect to the operation, maintenance, repair and replacement and administration of the Building, including, without limitation or duplication, (1) the costs incurred for all utilities supplied to the entire Building; air conditioning; mechanical ventilation; heating; cleaning (including janitorial services); rubbish removal; snow removal; general landscaping and maintenance; window washing, porter and matron services, electric current for Common Areas; management fees; protection and security services; repairs, replacement, and maintenance; fire, extended coverage, boiler, sprinkler, apparatus, public liability and property damage insurance (including loss of rental income insurance); supplies; wages, benefits and salaries respecting service and maintenance employees and management staff; sales, use and other similar taxes; water rates and sewer charges; personal property taxes; advertising, public relations and promotions; and the cost of movable equipment and personal property, which is not capitalized, as well as the cost of maintaining all such movable equipment, and any other costs, charges and expenses which, under generally accepted accounting principles and practices, would be regarded as maintenance and operating expenses, (2) any costs and expenses paid or incurred by Landlord for the repair, maintenance and operation of the roads and Common Areas of the Building, and (3) the cost of any capital improvements made to the Building and Common Areas of the Development by Landlord, including those that are intended to reduce other Expenses or made to the Building by Landlord after the date of this Lease that are required under any governmental law or regulation that was not applicable to the Building at the time it was constructed, such costs to be amortized in accordance with GAAP over the useful life thereof.

The Expenses shall be adjusted to equal Landlord's reasonable estimate of Expenses had one hundred percent (100%) of the total rentable area of the Building been occupied and had one hundred percent (100%) of the total rentable area of the Building been furnished all services. In order to equitably and consistently calculate any increases in Expenses over the Base Year, if, during the Base Year, Landlord furnished a particular work or service to any portion of the Development (the cost of which constituted an Expense) and if, during any year following the Base Year, Landlord no longer furnishes such work or service for any reason whatsoever, then the Expenses for such later year shall be increased by an amount equal to the additional cost which would have been incurred by Landlord had Landlord continued to furnish such work or service.

(b) The term "Taxes" shall mean the amount incurred by Landlord for all ad valorem real property taxes and assessments, special or otherwise, levied upon or with respect to the Development, or the rent and additional charges payable hereunder, imposed by any taxing authority having jurisdiction. Taxes shall also include all taxes, levies and charges which may be assessed, levied or imposed in replacement of, or in addition to, all or any part of ad valorem real property taxes as revenue sources, and which in whole or in part are measured or calculated by or based upon the freehold and/or leasehold estate of Landlord or Tenant, or the rent and other charges payable hereunder, or relating to the ownership or operation of the Development (but not including income taxes owed on revenue derived from the operation, lease or sale of the Development). Taxes shall include any expenses incurred by Landlord in determining or attempting to obtain a reduction of Taxes. Notwithstanding anything to the contrary contained herein, in the event that Landlord obtains a reduction in Taxes below the amount of Taxes for the Base Year, such reduced amount shall thereafter be deemed to be the amount of Taxes for the Base Year, notwithstanding the calendar year of such reduced Taxes, for purposes of calculating Tenant's Share of increases in Taxes in excess of the Base Year.

d. Other. Tenant shall be responsible for obtaining and paying for all other utilities and services for their space including phone, internet, cable television, and in-suite janitorial services. Landlord agrees to provide access to the Building's data distribution closet or other areas of the Building necessary to connect Tenant's telecommunications equipment including the roof for possible IT equipment – exact location to be mutually agreed upon.

4. Use. The Premises are to be used and occupied by Tenant for the operation of an office and other ancillary uses typically associated with office use and for no other purpose without the prior written consent of Landlord. No activity shall be conducted on the Premises that does not comply with local laws, ordinances, and regulations. Tenant agrees to abide by and adhere to the Landlord Rules and Regulations as set forth on Exhibit C attached hereto. Landlord hereby represents and warrants to Tenant that, as of the Effective Date, the Premises (in its "as-is" condition as of the Effective Date), the common areas of the Building and the base Building systems serving the Premises comply with applicable law.

Tenant shall have access to the Premises twenty-four (24) hours per day, seven (7) days a week, but the parties acknowledge and agree that the Premises will typically be occupied between the hours of 7am to 7pm Monday through Friday and 8am to 12pm on Saturday (the "**Normal Business Hours**"). Should Tenant desire to operate its business for any period of time in excess of Normal Business Hours, on a repetitive, regular or continuous basis ("**Extended Hours**"), Tenant shall provide written notice to Landlord and the Rent shall be adjusted to reflect a reasonable additional charge for electricity and HVAC for the applicable period, to be mutually agreed on by Landlord and Tenant.

5. Construction of Leased Premises. Landlord shall construct the Tenant Improvements for Suite 180W only, as set forth on the attached Contractor Agreement, delivered to Landlord by Tenant. Tenant selected Contractor and is responsible for all costs associated with the "Contractor Agreement" and completion of the Tenant Improvements as set forth in Exhibit B (Exhibits A and B shall be referred to collectively as the "**Tenant Improvements**" or "**Final Plans**") at Tenant's sole cost and expense. Tenant has made a construction deposit to Landlord of $600,000.00 (the "TI Deposit"). At job completion satisfactory to both Landlord and Tenant, with all outstanding building permits opened by Contractor finalized with the City of Ann Arbor, a final accounting shall be completed. To the extent the total job cost is less than the TI Deposit, Landlord shall refund any overage to Tenant. To the extent the total job cost is greater than the TI Deposit, Tenant shall remit payment to Landlord in the amount of any overage. Within five (5) business days following substantial completion of the Tenant Improvements, Landlord and Tenant shall cooperate to execute a mutually agreeable "punch list" identifying any incomplete and unacceptable items in the Tenant Improvements. No later than thirty (30) days after the parties' execution of said "punch list", Tenant shall have Contractor complete all items identified on said "punch list". Landlord and Tenant acknowledge that the Tenant Improvement plans attached as Exhibits A and B reflect the parties' substantial agreement regarding the work to be performed in the Premises, but that certain additional work may need to be performed or adjustments may need to be made to the proposed Tenant Improvements. Landlord and Tenant agree to work together in good faith to mutually and reasonably agree upon any changes required to the Tenant Improvements.

6. Late Charges. Rent is payable on the first day of every month. Any payment received by the Landlord from the Tenant after the fifth (5th) day of the month is subject to a five percent (5%) late charge or amount allowable by pertinent Michigan law, whichever is less.

7. Parking. Tenant shall have access to on premises parking spaces located in the common area parking.

8. Condition of Premises; alterations; maintenance; repairs.

a. Tenant shall maintain the Premises in a clean and sanitary condition and shall surrender the Premises in the same condition as existed at the commencement of this Lease, subject to ordinary wear and tear and damage by the elements. Tenant shall not make any alterations, additions, or improvements to the Premises, other than Permitted Alterations (hereinafter defined), without the prior written consent of Landlord, which will not be unreasonably withheld, conditioned or delayed. A "Permitted Alteration" shall mean any alteration in the Premises that does not (1) affect the structure of the Building; (2) adversely affect the electrical, plumbing, mechanical or other systems of the Building or the functioning thereof; (3) interfere with the operation of the Building or the provision of services or utilities to other tenants in the Building; or (4) cost more than Twenty-Five Thousand Dollars ($25,000.00) in the aggregate over a period of six (6) months

b. Tenant agrees to be responsible for any damage caused to the Premises by its use, and further agrees to promptly report to Landlord any damage caused to or discovered in the Premises. If Tenant shall fail to make any repairs or to perform any maintenance which it is obligated to make or perform under this Lease within ten (10) days after receipt of written notice from Landlord to do so, or in the event of a situation that poses an imminent threat of bodily harm to person or property (an "**Emergency**"), Landlord may enter the Premises and make such repairs as are reasonably necessary to restore the Premises to their original condition (wear and tear and damage by the elements excepted), and Tenant shall reimburse the Landlord for the reasonable and actual out-of-pocket cost of any such repairs for which it is responsible under this Lease. However, if the nature of any Landlord requested visit is not an emergency, the Tenant may request that Landlord come at an alternative time, including after hours if necessary.

c. Landlord shall make all necessary repairs to the common areas (including any common area stairs) and structure (including but not limited to the roof, foundation, skylights, penetrations, etc.) of the Building, the parking facility serving the Building and the mechanical, electrical, plumbing, heating and air conditioning systems therein, except with respect to any items installed or constructed by Tenant and except where the repair has been made necessary by misuse or neglect by Tenant or Tenant's agents, servants, visitors or licensees. Landlord shall undertake its maintenance and repair obligations pursuant to the terms of this Section 8(c) in a manner which is comparable to the manner in which reasonably prudent owners of first-class office buildings in the Ann Arbor, Michigan submarket of comparable age, size, quality and location to the Building undertake similar maintenance obligations. Landlord will use commercially reasonable efforts to make such repairs in a timely fashion.

9. Signs. Landlord reserves exclusive right to the exterior of the Building, and Lessee shall not construct, place or paint any sign or awning or improvement or apparatus on the exterior of the Building without prior written consent of Landlord. Any signs placed in the windows or doors of the Premises by Tenant shall be approved in writing by Landlord, such approval not to be unreasonably withheld, conditioned or delayed, and shall be in keeping with the character and décor of the Building as a whole. Landlord shall provide (at Landlord's expense) building directory signage in the lobby identifying Tenant and the Premises, which signage shall be consistent with the other Building directory signage installed by Landlord. All other signage shall be at Tenant's sole cost and expense. Tenant shall remove any sign installed by it upon termination or expiration of this Lease. Tenant will also have one panel on the monument sign.

10. Services. Landlord will provide the following services:

a. Tenant shall have access to the Building and the Premises twenty-four (24) hours per day, seven (7) days a week.

b. Landlord will provide Tenant with fifteen (15) security access cards at no charge. Each additional card will be a $10.00 per card charge.

c. Landlord will use its best efforts to make sure that a least one (1) elevator is operational during Normal Business Hours.

d. Heat, ventilation and air conditioning ("**HVAC**") when necessary to provide a seasonable temperature (subject to governmental regulations) for normal occupancy and use of the Premises during Normal Business Hours. Landlord shall provide the foregoing HVAC service in a manner which is comparable to the manner in which reasonably prudent owners of first-class office buildings in the Ann Arbor, Michigan submarket of comparable age, size, quality and location to the Building provide such service.

e. Electricity for building standard lighting twenty-four (24) hours per day, seven (7) days a week.

f. Electricity for operation of desk-top computers, printers, fax machines, copy machines, telephone equipment, non-standard Building lighting, and other energy consuming devices.

g. Landlord shall perform all light tube or bulb replacements at Tenant's reasonable request, provided, however, that the cost of all light tube or bulb replacements shall be at Tenant's sole cost and expense.

h. Rest room facilities and necessary lavatory supplies, including hot and cold running water, at those points of supply provided for the general use of other tenants in the Building, and routine maintenance, painting, and electrical lighting service for all public areas and special service areas of the Building in the manner and to the extent that is standard for first-class office buildings in the Ann Arbor, Michigan area.

i. Janitorial services for the Common Areas of the Building in a manner consistent with the standard for professionally managed office buildings in the Ann Arbor, Michigan area.

j. Daily removal of trash and other waste from the Building in a manner consistent with the standard for first-class office buildings in the Ann Arbor, Michigan area.

k. Further, Tenant and its employees shall have access to all general access amenities in the Building provided by Landlord from time to time for various tenants, including, if applicable, access to the rooftop, loading dock, fitness center, cafeteria, etc.

l. Adhering to a property management protocol that is consistent with the standard for professionally managed office buildings in the Ann Arbor, Michigan area.

11. Damage to Premises. If the Premises are damaged by fire or other casualty, then Landlord shall repair the Premises as speedily as possible, and the rent shall be abated in whole or in part, according to the portion of the Premises which is rendered unusable. If less that the entire space is rendered unusable but the remaining portion is obviously not suited to meet Tenant's operations needs, then the entire space will be deemed unusable. If the Premises cannot be repaired within one hundred eighty days (180), then Tenant may terminate this Lease by giving notice to Landlord within ten (10) days after the Landlord has notified Tenant of the time required to repair the Premises. Landlord shall, in its sole judgment, reasonably exercised, determine the length of time required to repair the Premises, and shall notify Tenant of such determination within ten (10) days after the occurrence of the fire or other casualty. Notwithstanding the foregoing, if the Premises are so damaged by fire or other casualty that demolition or substantial reconstruction is required, then Landlord may terminate this Lease by giving notice to Tenant within thirty (30) days after the date of such damage. If Landlord commences to restore the Premises in accordance with the terms of this Section 12 and Landlord fails to substantially complete the restoration work which Landlord is obligated to perform hereunder within one hundred eighty (180) days from the date of the damage, then Tenant shall have the right, during the thirty (30) day period immediately following the expiration of such one hundred eighty (180) day period, to terminate this Lease by delivering a termination notice to Landlord, specifying an effective date, not less than ten (10) nor more than sixty (60) days after the giving of such termination notice, on which the Term shall expire as fully and completely as if such date were the date originally fixed for the expiration of the Term.

12. Eminent Domain. If any part of the Premises is taken by public authority under the power of eminent domain then this Lease shall terminate on the part so taken on the date possession of the Premises is required for public use, and any pre-paid rent shall be refunded to the Tenant. If less that the entire space is rendered unusable but the remaining portion is obviously not suited to meet Tenant's operations needs, then the entire space will be deemed unusable. In such a circumstance, Landlord and Tenant shall also each have the right to terminate this Lease for any remaining portion of the Premises upon written notice to the other, which notice shall be delivered within thirty (30) days following the date notice is received of such taking (provided, however, that Landlord shall only have the right to terminate this Lease if it terminates the leases of all office tenants of the Building which are terminable by Landlord in such event). If neither party terminates this Lease, Landlord shall make all necessary repairs to the Premises and the Building and the improvements in which the Premises are located to render and restore it to a complete architectural unit, and Tenant shall continue in possession of the portion of the Premises not taken under the power of eminent domain, under the terms and conditions provided in this Lease, except that the monthly rent shall be reduced in direct proportion to the amount of the Premises so taken. All damages awarded for such taking shall belong to and shall be property of the Landlord, whether such damages be awarded as compensation for diminution in value of the Leasehold or to the fee of the Premises. Notwithstanding the foregoing, Tenant may go to all legal proceedings and assert any claim that it may have against the condemning authority for compensation for any of Tenant's personal property and trade fixtures and for any relocation expense compensable by statute, and receive such award therefor as may be allowed in the condemnation proceedings, if such award shall be made in addition to and stated separately from the award made for the Land and the Building or the part thereof so taken.

13. Liability

a. Indemnity. To the maximum extent this Lease may be made effective according to law, Tenant and Landlord agree to indemnify and save harmless each other from and against all claims of whatever nature arising from any act, omission, or negligence of the other party, or its contractors, licensees, invitees, agents, servants, or employees. This indemnity and hold harmless provision shall include indemnity against all costs, expense, and liabilities incurred in or in connection with any such claim or proceeding brought thereon, and the defense thereof.

b. Tenant's Risk. To the maximum extent this Lease may be made effective according to law, Tenant agrees to use and occupy the Premises and to use such other portions of the Building as Tenant is given the right to use at Tenant's own risk; and Landlord shall have no responsibility or liability for any loss of or damage to fixtures or other personal property of Tenant or Tenant's agents, employees, independent contractors, or invitees for any other reason than the intentionally wrongful or negligent acts or omissions of Landlord or Landlord's agents, employees, independent contractors, or invitees. The provisions of this section shall be applicable from and after the Effective Date and until the end of the Term, and during such further period as Tenant may use or be in possession of any part of the Premises.

c. Injury Caused by Third Parties. To the maximum extent this lease may be made effective according to the law, Tenant agrees that Landlord shall not be responsible or liable to Tenant, or those claiming by, through or under Tenant, for any loss or damage that may be occasioned by or through the acts or omissions of persons occupying adjoining Premises or any part of the Premises adjacent to or connecting with the Premises or any part of the building, or otherwise or for any loss or damage resulting to Tenant or those claiming by, through, or under Tenant, or its or their property, from breaking, bursting, stopping, or leaking of electric cables and wires, water, gas, sewer, or steam pipes, from roof leaks, fire, or any other like causes unless caused by Landlord's negligence or willful misconduct, provided, however, that Landlord agrees to use to commercially reasonable and good faith efforts to enforce the terms of any other tenants lease against such tenant.

d. Utilities. Landlord shall not be liable to Tenant for damages or otherwise (a) if any utility shall become unavailable from any public utility company or authority, or any other person or entity (including Landlord) supplying or distributing such utility or (b) for any interruption in a utility service (including, without limitation, heating, ventilation, air conditioning) caused by the making of any necessary repairs or improvements or by any cause whatsoever nor shall the same constitute a termination of this Lease or an eviction of Tenant unless a result of Landlord’s negligence or bad acts. Notwithstanding the foregoing, Landlord may not elect to intentionally discontinue a utility that is provided by Landlord without Tenant’s prior written consent. However, if for any reason the utilities are shut off for more 30 consecutive days then Tenant may cancel this lease.

14. Insurance. Landlord will obtain and maintain, at all times until termination of this Lease and surrender of the Premises to Landlord, special cause of loss form, or its equivalent, property insurance including equipment breakdown coverage, covering the Building and the Premises, including common areas, and all other improvements to the Building made by Landlord but specifically excluding Tenant betterments installed by Tenant and providing the insurance protection to Landlord described in this Lease, which insurance shall be in an amount not less than one hundred percent (100%) of the full replacement cost of the foregoing. Landlord will retain in its possession the original policy and all endorsements, renewal certificates and new policies, if any issued during the term but will provide Tenant, upon request, with copies of said policy or certificates of self-insurance. Landlord will also maintain commercial general liability insurance coverage against claims for, or arising out of, bodily injury, death or property damage occurring in, on or about the Building and the Premises or property in, on or about the street, sidewalks or properties adjacent to the Building and the Premises. The policy shall carry limits, including coverage under umbrella policies of not less than $500,000 per occurrence and $1,000,000 aggregate.

In addition to the above, and not by the way of substitution thereof, Tenant shall obtain, at its own expense, comprehensive general liability insurance with both Landlord and Wickfield Properties LLC named as additionally insured, against claims for, or arising out of, bodily injury, death or property damage occurring on the Premises and shall have limits of coverage of $500,000 per occurrence and $1,000,000 annual aggregate. Tenant will deliver a letter to Landlord confirming Tenant's required insurance coverage upon written request from Landlord.

15. Bankruptcy and Insolvency. If the leasehold estate hereby created shall be taken in execution, or by other process of law, or if Tenant shall be declared bankrupt or insolvent, according to law, or any receiver be appointed for the business and property of Tenant, or if any assignment shall be made of the Tenant's property for the benefit of creditors, then in such event this Lease may be canceled at the option of the Landlord. If the Landlord chooses to cancel this Lease, Landlord must give notice to Tenant in writing in accordance with Section 19 contained herein.

16. Subordination of Lease. Tenant agrees that Landlord may subordinate this Lease to its present or any subsequent mortgage on the leased Premises, provided that such subordination shall not interfere with Tenant's continued occupancy of the Premises pursuant to the term of this Lease and provided further that any lender with a mortgage on the Premises agrees to deliver to Tenant a subordination, non-disturbance and attornment agreement in the lender's standard and reasonable form with reasonable approval by Tenant. Tenant agrees to execute any and all instruments as may be reasonably requested from time to time by Landlord in order to evidence the above described subordination of this Lease to any mortgage. Tenant agrees to execute, acknowledge and deliver to Landlord within thirty (30) days following a written request from Landlord a statement in writing certifying this lease is unmodified and in full force and effect (or if there have been modifications, that the same is in full force and effect as modified, and stating said modifications), and the dates to which the rent and other charges have been paid in advance, if any, it being intended that any such statement delivered pursuant to this paragraph may be relied upon by any prospective purchaser, mortgagee, or assignee.

17. Landlord's Remedies.

a. In the event Tenant shall fail to pay the Rent or any other obligation involving the payment of money reserved herein when due, Landlord shall give Tenant written notice of such default, and if Tenant shall fail to cure such default within thirty (30) days after receipt of such notice, Landlord shall, in addition to its other remedies provided by law and in this Lease, have the remedies set forth in subparagraph (c) below.

b. If Tenant shall be in default in performing any of the terms of this Lease other than the payment of Rent or any obligation involving the payment of money, Landlord shall give Tenant written notice of such default, and if Tenant shall fail to cure such default within forty-five (45) days after receipt of such notice (or if the default is of such a character as to require more than forty-five (45) days to cure, such reasonable additional time as shall be required to permit Tenant to cure the default, provided that Tenant promptly commenced and diligently pursued the cure of such default), then Landlord may (at its option and in addition to other legal remedies) cure such default for the account of Tenant and be reimbursed by Tenant for the reasonable and actual costs of such care. Such reimbursement shall be Additional Rent for all purposes hereunder, including subparagraph (a) above and shall be paid by Tenant with the next monthly installment of Rent.

c. If any Rent or any other obligation involving the payment of money shall be due and unpaid or Tenant shall be in default upon any of the terms of this Lease, and such default has not been cured after notice and within the time provided in subparagraphs (a) and (b) above, then Landlord may seek to take possession pursuant to legal proceedings or any notice provided for by law. Landlord may either terminate this Lease or, without terminating this Lease, re-let the Premises or any part thereof on such terms and conditions as Landlord shall deem reasonably advisable. Any payments as a result of such re-letting shall be applied as follows: first, to the payment of any indebtedness of Tenant to Landlord other than Rent due hereunder; second, to the payment of any reasonable costs incurred by Landlord in obtaining possession and re-letting the Premises, including, without limitation, legal fees, brokerage commissions and the cost of any reasonable alterations, and repairs to the Premises; third, to the payment of Rent due and unpaid hereunder; and the residue, if any, shall be held by Landlord and applied in payment of future Rent as the same may become due and payable hereunder. Tenant shall be liable to Landlord for any deficiency. Both parties shall use their best efforts to mitigate their damages under this Lease.

d. All rights and remedies of Landlord hereunder shall be cumulative and none shall be exclusive of any other rights and remedies allowed by law.

18. Notices. All notices required to be given hereunder by either party to the other shall be given by personal delivery, sent by a reputable private carrier of overnight mail or by certified or registered mail, return receipt requested. In the event notice is given by personal delivery, notice shall be deemed given when delivered; if notice is given by private carrier or overnight mail it shall be deemed made on the day after such sending; or if by certified or registered mail, it shall be deemed given when deposited into the United States mail, postage prepaid. Notices to the respective parties shall be to the addresses set forth in the Lease Summary or such other address as notified to the other parties.

19. Assignment. The Tenant covenants not to assign or transfer this Lease or mortgage the same or sublet said Premises or any part thereof without the prior written consent of the Landlord which consent shall not be unreasonably withheld, conditioned or delayed. Any assignment, transfer, hypothecation, mortgage or subletting without said written prior consent shall give the Landlord the right to terminate this Lease and to re-enter and repossess the leased Premises, except that the Tenant may withdraw request to assign or sublease, in which case Landlord shall not have the right to terminate this Lease or repossess the Premises. Notwithstanding the foregoing, Tenant shall have the right to assign the Lease or sublease the Premises, or a portion thereof, to any parent, subsidiary or affiliate or any entity resulting from a merger with tenant or the sale of all substantially all of Tenant's assets.

20. Successors. This Lease shall be binding on and inure to the benefit of the parties and their successors.

21. Severability. The unenforceability, invalidity, or illegality of any provision of this Lease shall not render the other provisions unenforceable, illegal, or invalid.

22. Brokers. Landlord shall be responsible for all fees associated with this transaction to Gritter Real Estate Services, LLC.

23. Law of Michigan. This Lease shall be construed and interpreted in accordance with the laws of the State of Michigan, without reference to its conflicts of laws principles. Landlord, its successors and assigns, consents to the jurisdiction of the appropriate courts of the State of Michigan with respect to any other claims arising under this Agreement.

24. Environmental Matters.

a. Landlord represents and warrants to Tenant that (a) Landlord has no notice or knowledge of any violation of any laws or regulations affecting the Land or the Premises itself, including any laws, ordinances, or regulations relating to the soil, surface water and ground water of or on the property; and to Landlord's best knowledge the Land and Premises are free of and do not contain any pollution, contamination, or other environmental hazards which shall include, but not be limited to, those identified under federal, state, or local statute, ordinance, or regulation; and (b) Landlord has not received any notice of or have any knowledge of any existing or threatened condemnation or other litigation, administrative proceeding, or action of any kind involving the Land or the Premises.

b. Both parties shall comply with all applicable laws and regulations relating to the Premises, including environmental laws and regulations. Each party shall give immediate notice to the other of the release or the threatened release of any hazardous material or any violation of any applicable environmental law or regulation at or affecting the Land or the Premises, and such party shall promptly undertake all obligations imposed upon it under applicable environmental law or regulation as a result of such event.

25. Quiet Enjoyment. So long as Tenant pays the rent and otherwise complies with this Lease, Tenant's possession of the Premises will not be disturbed by Landlord, its successors or assigns, and Tenant shall be entitled to quiet enjoyment of the Premises.

26. Security Deposit. The Landlord herewith acknowledges the receipt of two month’s rent - $64,904.00 which the Landlord shall retain as security for the faithful performance of all the covenants, conditions, and agreements of this lease, but in no event shall the Landlord be obliged to apply the same upon rents or other charges in arrears or upon damages for the Tenant’s failure to perform the said covenants, conditions, and agreements; the Landlord may so apply the security at its option; and the Landlord’s right to the possession of the premises for non-payment of rent or for any other reason shall not in any event be affected by reason of the fact that the Landlord holds the security. The said sum if not applied toward the payment of rent in arrears or toward the payment of damages suffered by the Landlord by reason of the Tenant’s breach of covenants, conditions, and agreements of this lease is to be returned to the to the Tenant within 30 days after termination of the lease agreement. In no event is the landlord obligated to return the security deposit until the Tenant has vacated the premises and delivered possession to the Landlord. In the event that the Landlord repossesses himself of the said premises because of the Tenant’s default or because of the Tenant’s failure to carry out the covenants, conditions, and agreements of this lease, the Landlord may apply the said security upon all damages as may be suffered to the date of said repossession and may retain the said security to apply upon such damages as may be suffered or shall accrue thereafter by reason of the Tenant’s default or breach. The Landlord shall not be obliged to keep the said security as a separate fund, but may mix the said security with its own funds

27. Lender Approval. This Lease is subject to Landlord’s lender approval. If Landlord lender does not approve Lease, this Lease shall be void.

28. Amendments. Any amendments or addendums to this Lease must be in writing and signed by both parties to the Lease.

29. Entire Agreement. This Lease, together with the Lease Summary and all Exhibits attached hereto, contains and embodies the entire agreement of the parties hereto, and no representations, inducements or agreements, oral or otherwise, between the parties not contained and embodied in this Lease shall be of any force or effect.

30. Counterparts. This Lease may be executed in two (2) or more counterpart copies, all of which counterparts shall have the same force and effect as if all parties hereto had executed a single copy of this Lease.

[REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the undersigned have caused this Lease to be signed as of the Effective Date.

LANDLORD:

WICKFIELD PHOENIX, LLC

By: */s/ Bradley J. Hayosh*
Name: Bradley J. Hayosh
Its: Authorized Agent

TENANT:

ZOMEDICA PHARMACEUTICAL INC.

By: */s/ Shameze Rampertab*
Name: Shameze Rampertab
Its: Interim CEO

EXHIBIT A

FLOOR PLAN ATTACHED

EXHIBIT B

TENANT SPACE FINISH WORK

None

EXHIBIT C

RULES AND REGULATIONS

1. The sidewalks, entrances, passages, courts, elevators, vestibules, stairways, corridors, or halls, shall not be obstructed or encumbered by any Tenant or used for any purpose other than ingress or egress to and from the Premises.

2. Except as expressly permitted in the Lease or otherwise permitted by Landlord, no sign, picture, lettering, notice or advertisement of any kind shall be painted or displayed on or from the windows, doors, roof, or outside walls of the structure in which the Premises are located. All of Tenant's interior sign painting or lettering shall be done in a manner reasonably approved by Landlord, and the cost thereof shall be paid by Tenant. In the event of the violation of the foregoing by any Tenant, Landlord may remove same without any liability and may charge the reasonable expense incurred for such removal to Tenant (provided that Landlord first gives Tenant notice and an opportunity to cure).

3. No curtains, blinds, shades, screens, awnings or other projections shall be attached to or hung in, or used in connection with any window or door of the Premises or outside wall of the building without the prior written consent of Landlord, which consent shall not be unreasonably withheld, conditioned or delayed. If curtains or venetian blinds are provided in the Premises, Tenant shall use such care and diligence to protect them as may be required by Landlord.

4. Any carpeting cemented down shall be installed with a releasable adhesive.

5. The water and wash closets and other plumbing fixtures shall not be used for any purpose other than those for which they were constructed and no sweepings, rubbish, rags, or other substances shall be thrown therein. All damages resulting from any misuse of the fixtures by shall be borne by the Tenant who, or whose servants, employees, agents, visitors, licensees or invitees, shall have caused the same. No person shall waste water by interfering or tampering with the faucets or otherwise.

6. No electric current shall be used by Tenant except that furnished or approved by Landlord.

7. Tenant shall not cause or permit unusual or objectionable odors to be produced upon or permeate from the Premises, including duplicating or printing equipment or data processing equipment emitting noxious fumes. Tenant shall not unreasonably disturb any neighboring structures or premises by the use of any unseemly or disturbing noise.

8. Tenant shall not throw anything out of the doors, windows, or down any passageways or elevator shafts. Except as permitted pursuant to the terms of the Lease, no area outside of the Premises shall be used for storage at any time. All garbage, boxes, and debris is to remain within the Premises during the course of normal business hours. All such items shall be clearly labeled as garbage.

9. All loading, unloading, receiving or delivery of goods, supplies or disposal of garbage or refuse shall be made only through entryways provided for such purposes and indicated by Landlord.

Tenant is not permitted to use any part of the Premises for any manufacturing, for lodging or sleeping, gambling or for any immoral or illegal purpose. No intoxicating beverages shall be sold in the Premises or the structure of which the Premises are a part without prior written consent of the Landlord. However, if the nature of any Landlord requested visit is not an emergency, the Tenant may request that Landlord come at an alternative time, including after hours if necessary.

10. All safes or other heavy articles of Tenant shall be carried in or out of the Premises in a manner which will not interfere with or cause damage to the Premises. Tenant shall be responsible for any damage to the Premises or others and injuries sustained by any person whomsoever resulting from the use or moving of such articles in or out of the Premises, and shall make all repairs and improvements required by Landlord or governmental authorities in connection with the use or moving of such articles.

11. Tenant shall not install or operate any steam or gas engine or boiler or carry on any mechanical business in the Premises, or use oil, burning fluids, camphene or gasoline for heating or lighting, or for any other purpose. No article deemed extra hazardous on account of fire or other dangerous properties, or any explosive, shall be brought into the Premises. This prohibits the use of hot plates (cooking), space heaters, and only approved electric percolators shall be permitted.

12. Landlord will furnish Tenant with two keys for each lock on the doors of the Premises. Additional keys must be made at Tenant's expense, but only by Landlord. No additional locks or bolts of any kind shall be placed upon any of the doors or windows by any Tenant, nor shall any changes be made in existing locks or the mechanism thereof. Each tenant must, upon the termination of its tenancy, restore to Landlord all keys of stores, offices and toilet rooms, either furnished to or otherwise procured by such Tenant and in the event of the loss of any keys so furnished, such Tenant shall pay to the Landlord the cost thereof.

13. Tenant shall not use any advertising or communication which tends to impair the reputation of the Premises or its desirability as a building for offices.

14. Canvassing, soliciting or peddling in the Premises is prohibited and the Tenant shall cooperate to prevent the same.

15. Wherever the word "Tenant" occurs in this exhibit, it is understood and agreed that it shall mean Tenant's employees, agents, clerks, servants, invitees and visitors. Wherever the word "Landlord" occurs in this exhibit, it is understood and agreed that it shall mean Landlord's employees, agents, clerks, servants, invitees and visitors.

16. Subject to the terms and conditions of the Lease, Landlord shall have the right to enter upon the Premises at all reasonable hours for the purpose of inspecting the same and making any repairs and for any other reasonable purposes, provided that Landlord gives Tenant reasonable prior notice, conducts such inspections during normal business hours (except in emergencies) and agrees to be accompanied by an employee of Tenant at all times.

17. Tenant shall not place or permit to be placed, a load exceeding the floor load per square foot which such floor was designed to carry and which is allowed by law.

18. Tenant assumes responsibility for protecting the Premises from thefts, robbery and pilferage. Tenant shall be responsible for locking all doors.

19. Tenant shall not smoke in Premises or within 50 feet of Premises unless otherwise permitted by Landlord. Tenant shall smoke outside only in areas designated for such purpose.

Exhibit 10.33

STRATEGIC ADVISORY AGREEMENT

This strategic advisory agreement ("Agreement") having an effective date of December 16, 2019, is entered into by and between Zomedica Pharmaceuticals Corp., having its principal place of business at 100 Phoenix Drive, Suite 190, Ann Arbor, MI 48108 ("Client") and Johnny D. Powers, an individual having a principal place of business at 27437 N. 97th Place, Scottsdale, AZ 85262 ("Consultant").

Recitals

WHEREAS, Consultant has experience in the fields of medical and diagnostics industry, specifically veterinary healthcare; and

WHEREAS, Consultant is willing to be engaged by Client upon the terms and conditions herein contained; and

WHEREAS, a significant portion of Client's business and assets are comprised of Proprietary and Confidential Information, as defined below, which Client wishes to preserve and protect;

NOW, THEREFORE, in consideration of the recitals, and of the terms, covenants, and conditions set forth herein, and for other good and valuable consideration, receipt of which is hereby acknowledged, Client and Consultant mutually agree as follows:

1. Consulting Services. Client hereby retains Consultant to render the following services to Client:

- Work with Client Senior Management to formulate company strategy;
- Work with Client Senior Management to establish company goals that drive the strategy
- Work with Client Senior Management to implement and evaluate the progress of the goals; and
- Such other services as Client may require during the term of this Agreement.

Consultant agrees to provide up to 32 hours of such services during any calendar month of the Agreement term. The timing, manner and means by which Consultant chooses to complete the services are in Consultant's sole discretion and control. Consultant's obligations shall be conditioned upon receiving such information and cooperation from Client as may be reasonably necessary to perform the services.

2. Services NOT Performed by Consultant. Although Consultant may comment upon Client's legal documents, financial statements or other documentation in the course of performing the services hereunder, Client acknowledges that Consultant is not an attorney, nor is Consultant providing auditing or accounting services or opining on representations made in any financial statements. Client further acknowledges that Client should consult with its own legal, auditing and accounting advisors regarding any matters requiring legal, auditing or accounting advice.

3. Relationship of Parties. This Agreement shall not constitute an employer-employee relationship, and it is the intent of each party that Consultant shall at all times be an independent contractor.

4. Term. The term of this Agreement shall commence on the date hereof and shall expire on April 30, 2020 ("Initial Term"). Upon expiration of the Initial Term, this Agreement shall automatically be renewed month to month thereafter.

5. Compensation. For services provided hereunder, Consultant shall be paid:

a) The sum of $190 per hour, billable in increments of one-quarter of an hour.
b) Following the execution of this Agreement, the Consultant shall be granted 250,000 options to acquire common shares in the capital of the Client, with an exercise price at fair market value, a two year term and full vesting on date of grant, subject to establishment and approval by the Board of Directors of the Client in accordance with the Client's stock option plan.
c) Consultant shall only be entitled to payment or reimbursement for travel expenses, food, lodging, any per diem allowance, equipment, supplies, or similar items if expressly authorized in advance by Client.

Consultant will invoice for services provided monthly. Invoices will be due within 45 days of delivery of each invoice and may be paid via ACH or wire transfer.

6. Ownership. All work product (regardless of form or media) that Consultant creates in connection with providing the services and/or otherwise delivers to Client shall be considered to be "works made for hire" under the U.S. Copyright Act, 17 U.S.C. §§ 101 et seq. In the event such work product is not construed to be a work made for hire, Consultant agrees that Client owns all deliverables that Client actually pays for, and Consultant hereby assigns all of its rights, title and interests in and to such work product along with any and all associated intellectual property rights. Consultant further agrees to execute any documents and take any actions reasonably required by Client to confirm Client's legal title in and to such work product, and any intellectual or other property rights therein.

7. Work Product. Notwithstanding Section 6, Client acknowledges that Consultant may develop for himself, or for others, problem solving approaches, templates, frameworks, models, or other tools or information similar to the materials and processes developed in performing the services hereunder, and nothing contained herein precludes Consultant from developing or disclosing such materials and information, provided that the same do not contain or reflect Confidential Information.

8. Disclosure of Information. Consultant agrees that at no time (either during or subsequent to the term of this Agreement) will Consultant disclose or use, except in pursuit of the business of Client or any of its subsidiaries or affiliates, any Proprietary and Confidential Information of Client, or any subsidiary or affiliate of Client, acquired during the term of this Agreement. The term "Proprietary and Confidential Information" shall mean, but is not limited to, all information which is known or intended to be known only to Client, its subsidiaries and affiliates, and their employees, including any document, record, financial or other information of Client, or others in a confidential relationship with Client, and further relates to specific business matters such as the Client's financial information, identity of clients and patients, policies and procedures, fee structures, trade secrets, proprietary know-how, account information, and other information relating to other business of Client, its subsidiaries and affiliates, and their employees. Consultant agrees not to remove from the premises of Client except as necessary for Consultant to perform services in accordance with the terms of this Agreement, any document, record, or other information of Client or its affiliates.

Consultant agrees to return or destroy, immediately upon termination of Consultant's services hereunder, any and all documentation relating to Proprietary and Confidential Information of Client and of others that is in the possession of Consultant, in whatever format it may be maintained, whether provided to, or developed by, Consultant, and to provide a certificate of destruction if required by Client.

Notwithstanding the foregoing, the restrictions contained in this Section 8 shall not apply to any Proprietary and Confidential Information that (i) is a matter of public knowledge or prior personal knowledge (from a source other than a party to this Agreement or its affiliate), (ii) is independently developed by a person not a party to this Agreement without the use, directly or indirectly, of Proprietary and Confidential Information, or (iii) is required by law or the order of any court or governmental agency, or in any litigation or similar proceeding to be disclosed; provided that the disclosing party shall, prior to making any such required disclosure, notify the other party with sufficient notice to permit that party to seek an appropriate protective order.

9. Proprietary and Confidential Information of Others. Consultant acknowledges that Client does business with clients that supply Client with information of a confidential nature, and that Client has contractual obligations to preserve the confidential nature of such information. Consultant agrees to treat any information received from clients of Client as confidential, as if it were the Proprietary and Confidential Information of Client.

10. Remedies. In addition to any other remedies, which Client may have by virtue of this Agreement, Consultant agrees that in the event that a breach of the confidentiality provisions of this Agreement occurs or is threatened, Client shall be entitled to obtain an injunction against Consultant from a court of competent jurisdiction to restrain any breach of confidentiality.

11. Termination. Either party may terminate this Agreement, with or without cause, upon fifteen (15) days' advance written notice to the other, unless otherwise mutually agreed upon.

12. Limitation of Liability to Client. Notwithstanding any other provision of this Agreement, in no event shall Consultant be liable to Client for Client's lost profits, or special, incidental, punitive or consequential damages (even if Consultant has been advised of the possibility of such damages). Furthermore, in no event shall Consultant's liability to Client under any circumstances exceed the amount of compensation actually received by Consultant from Client under this Agreement as of a date certain. Further,
Consultant will not be liable for delays or performance failures due to circumstances beyond Consultant's control.

13. Indemnification of Consultant. Client shall indemnify, defend and hold Consultant harmless from and against any and all third party claims, liability, suits, losses, damages and judgments, joint or several, and shall pay all costs and expenses (including counsel's fees and expenses) as they are incurred in connection with the investigation of, preparation for or defense of any pending or threatened claim or any action or proceeding arising there from, that Consultant incurs as a result of having performed services on behalf of Client.

14. Client's Representations. Client represents that it has the full right and authority to enter into and perform this Agreement. The consummation of the Agreement and the transactions contemplated herein do not violate any outstanding assignments, grants, licenses, encumbrances, obligations, agreements or understanding between Client and any other person or entity. Client represents and warrants to Consultant that Client is able to timely pay Consultant all fees and expenses incurred in the performance of the services hereunder.

15. Amendments. This Agreement may be amended only in a written agreement signed by both parties.

16. Independent Consultant; No Agency. The parties agree that at all times during the term of this Agreement, Consultant shall continue to be an independent Consultant, and is not authorized as, nor shall be deemed to be an employee, agent, partner, joint venturer, or representative of Client. Neither party has the authority to bind the other or to incur any liability on behalf of the other, nor to direct the employees of the other. Nothing in this Agreement shall be interpreted or construed as creating or establishing the relationship of employer and employee between Client and Consultant or any employee or agent of Consultant. Consultant shall retain the right to perform services for others during the term of this Agreement.

17. Miscellaneous. No waiver by Client of any breach of this Agreement by Consultant shall be considered to be a waiver of any other breach. Should any litigation be commenced between Client and Consultant relating to any such breach, the prevailing party shall be entitled, in addition to such other relief as may be granted, reasonable costs and attorney's fees relating to such litigation. If any term or provision of this Agreement is determined to be illegal or invalid, such illegality or invalidity shall not affect the validity of the remainder of this Agreement. This Agreement shall be governed by and construed in accordance with the laws of the State of Michigan, without regard to the jurisdiction in which any action or special proceeding may be instituted.

18. Survival. Sections 4-9, 11-13, 15 and 18 shall survive the expiration or termination of this Agreement.

19. Counterparts. This Agreement may be executed by the parties in two (2) or more counterparts, each of which will be an original and all of which will be one and the same document.

This Agreement contains the entire agreement between the parties hereto with respect to the subject matter hereof.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the Effective Date,

CLIENT

Zomedica Pharmaceuticals Corp.

/s/ Shameze Rampertab
Shameze Rampertab
Interim CEO and Director

CONSULTANT

/s/ Johnny D. Powers

Johnny D. Powers

Exhibit 23.1

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in Registration Statement No(s). 333-228926 and 333-229014 on Form S-3 and Registration Statement No (s). 333-229343, 333-223893 and 333-221992 on Form S-8 of our auditors' report dated February 26, 2020, relating to the consolidated financial statements of Zomedica Pharmaceuticals Corp. and its subsidiaries (the "Company") for the years ended December 31, 2019 and 2018 (which expresses an unqualified opinion and includes an explanatory paragraph relating to the conditions and events that raise substantial doubt on the Company's ability to continue as a going concern) appearing in this Report on Form 10-K dated February 26, 2020.

Chartered Professional Accountants
Licensed Public Accountants
February 26, 2020
Toronto, Canada

Exhibit 31.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER AND PRINCIPAL FINANCIAL OFFICER PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Shameze Rampertab, certify that:

1. I have reviewed this annual report on Form 10-K for the year ended December 31, 2019 of Zomedica Pharmaceuticals Corp.;

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

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

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

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

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

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

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

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

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

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

Date: February 26, 2020

/s/ Shameze Rampertab
Shameze Rampertab
Interim Chief Executive Officer and Principal Executive Officer;
Chief Financial Officer and Principal Financial Officer

Exhibit 32.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER AND PRINCIPAL FINANCIAL OFFICER PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002, 18 U.S.C. SECTION 1350

In connection with the Annual Report on Form 10-K of Zomedica Pharmaceuticals Corp. (the "Company") for the fiscal year ended December 31, 2019 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned, Shameze Rampertab, Interim Chief Executive Officer and Chief Financial Officer of the Company, hereby certifies in his capacity as an officer of the Company, to his knowledge, pursuant to 18 U.S.C. Section 1350, that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: February 26, 2020

/s/ Shameze Rampertab
Shameze Rampertab
Interim Chief Executive Officer and Principal Executive Officer;
Chief Financial Officer and Principal Financial Officer