

**ANNUAL INFORMATION FORM**

**OF**

**ONDINE BIOPHARMA CORPORATION**

910-1100 Melville Street  
Vancouver, British Columbia, V6E 4A6

For the year ended December 31, 2008

Dated March 24, 2009

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## PRELIMINARY NOTES

In this Annual Information Form (“AIF”), Ondine Biopharma Corporation is referred to as the “Company”. All information contained herein is as at December 31, 2008, unless otherwise stated.

### Financial Statements

This AIF should be read in conjunction with the Company's audited consolidated financial statements and management's discussion and analysis for the year ended December 31, 2008. The consolidated financial statements and management's discussion and analysis are available under the Company's profile on the SEDAR website at [www.sedar.com](http://www.sedar.com). The Company's consolidated financial statements and all financial information in this AIF are prepared in accordance with Canadian generally accepted accounting principles.

### Currency

All sums of money which are referred to in this AIF are expressed in Canadian dollars, unless otherwise specified.

## CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

This AIF contains statements such as “believe”, “intend”, “may”, “will”, “should”, “plans”, “anticipates”, “believes”, “potential”, “intends”, “expects” and other similar expressions, which are forward-looking statements that involve a number of both known and unknown risks and uncertainties, as well as those factors discussed under “Describe the Business - Risk Factors”. Forward-looking statements, particularly as they relate to product development, clinical studies, regulatory clearance, the marketing and sales of products, and the timing or magnitude of such events are inherently risky and uncertain. Factors that could cause actual results to differ materially from those projected in the Company's forward-looking statements include, but are not limited to, the following: our limited operating history, our dependence on agreements with UCLB, the receipt or delay in receiving regulatory clearances, the success or failure of clinical studies, market acceptance of our technologies and products; our ability to obtain financing; our financial and technical resources relative to those of our competitors; our ability to keep up with rapid technological change; government regulation of our technologies; our ability to enforce our intellectual property rights and protect our proprietary technologies; our ability to obtain and develop partnership opportunities; our ability to secure adequate insurance; share price volatility; the timing of commercial product launches; the ability to achieve key technical milestones in key products; our ability to attract and retain key employees; fluctuation in currency exchange rates; credit risk; counterparty risk; and other risk factors identified from time to time in the Company's filings. Although the Company has attempted to identify important factors that could cause actual actions, events or results to differ materially from those described in forward-looking statements, there may be other factors that cause actions, events or results not to be as anticipated, estimated or intended. There can be no assurance that forward-looking statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. The Company is under no obligation to update any of the forward-looking statements contained in this AIF after the date hereof to conform such forward-looking statements to the Company's actual or future anticipated results. Accordingly, readers should not place undue reliance on forward-looking statements.

## DEFINITIONS

The following are selected abbreviations and definitions of terms used herein:

“the Act”	the British Columbia Business Corporations Act and includes the former Company Act (British Columbia)
“AIM”	the AIM market of the London Stock Exchange
“Board” or “Directors”	the directors of the Company whose names are set out under the heading “Directors and Officers” in this document
“Common Share”	a common share in the capital of OBC
“EU”	the countries that comprise the European Union, consisting of 27 European countries including, among other countries, the United Kingdom, France, Germany, Italy and Spain
“FDA”	the United States Food and Drug Administration
“HSC”	Henry Schein Canada, Inc. (formerly “Henry Schein Ash Arcona Inc.)
“HSI”	Henry Schein, Inc.
“ISO”	the International Organization of Standards, a quality standards organization based in Geneva, Switzerland
“Management”	the officers of the Company whose names are set out under the heading “Directors and Officers” in this document
“Ondine Business”	the business conducted by OBI prior to the RTO and, since the RTO, by the Company
“OBC”	Ondine Biopharma Corporation
“OBI”	Ondine Biopharma Inc. (formerly SBL Technologies Inc.) incorporated in British Columbia in August 1997, the company which conducted the Ondine Business prior to the RTO
“OBU”	Ondine Biopharma (U.S.A.), Inc., a wholly-owned subsidiary of OBC
“OIL”	Ondine International Limited, a wholly-owned subsidiary of OBC
“ORL”	Ondine Research Laboratories, Inc, a wholly-owned subsidiary of OBC
“Periowave™”	The Company’s first PDD product for the treatment of Periodontitis.
“RTO”	the recapitalization treated as a reverse acquisition by the Company of the Ondine Business, details of which are contained in this AIF
“TSX”	The Toronto Stock Exchange
“TSXV”	the TSX Venture Exchange
“UCL”	University College London
“UCLB”	UCL Business PLC, a wholly-owned subsidiary of UCL
“UCLB 1999 License Agreement”	the license agreement with an effective date of April 30, 1999 with UCLB, details of which are contained in this document
“UCLB 2006 License Agreement”	the license agreement made as of January 31, 2006 with UCLB, details of which are contained in this document

“UCLB 2008 License Agreement”	the license agreement signed on July 14, 2008 with UCLB, details of which are contained in this document
“UCLB 1999 Research Agreement”	the research agreement with an effective date of April 30, 1999 with UCLB, details of which are contained in this document
“UCLB 2006 Research Agreement”	the research agreement with an effective date of September 1, 2005 that the Company entered into in May 2006 with UCLB, details of which are contained in this document

### GLOSSARY OF TECHNICAL TERMS

In this AIF, the following technical terms have the following meanings:

“dental implant”	A manufactured post that is put in the jaw bone to create a stable foundation for a false tooth, a denture or a bridge
“derma-care”	the category of treatments and services for diseases of the dermis, mucous membrane and nail beds, as delivered by medical specialists and professionals
“endodontics”	The branch of dentistry concerned with the treatment of the tooth pulp and tissues surrounding the root of a tooth
“gingival pocket” or “pocket”	a crevice between the tooth and the supporting soft tissue
“gingival”	the gum tissue surrounding the tooth
“ <i>in vitro</i> ”	in context of medical research, a study carried out in an artificial environment outside of living organisms
“MRSA”	Methicillin resistant <i>Staphylococcus aureus</i>
“onychomycosis”	fungal nailbed infections
“oral care”	the category of treatments and services for diseases of the oral cavity, as delivered by oral care specialists and professionals
“otitis externa”	inflammation of the outer ear and ear canal
“PDD”	Photodisinfection, the employment of photosensitive compounds activated by laser light to deliver targeted microbial destruction
“peri-implantitis”	inflammatory conditions, including peri-mucositis, caused by reactions to bacterial infections of the tissue surrounding a dental implant
“photosensitizer(s)”	an agent which reacts to specific light sources
“prokaryotic cells”	cells which possess no distinct nucleus
“SRP”	An acronym for scaling and root planing, currently the method most commonly used in dentistry for the treatment and prevention of periodontal disease
“sub-gingival”	below the gum line
“topical”	the superficial structure of the epidermis and mucous membrane
“wound care”	the category of treatments and services for diseases occurring within burns, lacerations and trauma wounds, as delivered by medical specialists and professionals

## CORPORATE STRUCTURE

### Name, Address and Incorporation

The Company was incorporated on September 9, 1996 as 526736 B.C. Ltd. under the Act. The Company changed its name to Mutapa Gold Corp. on November 12, 1996; and then to Mutapa Copper and Cobalt Inc. on December 8, 1998; and then to Springbank Ventures Inc. on July 4, 2003. On July 4, 2003 the Company consolidated its share capital on the basis of one (1) new common share for every four (4) common shares.

On August 15, 2003, the Company entered into an asset transfer agreement, as amended on November 3, 2003, pursuant to which it acquired the assets and undertaking of OBI on March 31, 2004. The Company changed its name to Ondine Biopharma Corporation on March 22, 2004.

The registered and records office of the Company is located at 1500 Royal Centre, 1055 West Georgia Street, PO Box 11117, Vancouver, British Columbia, V6E 4N7 and the head office is located at 910-1100 Melville Street, Vancouver, British Columbia, V6E 4A6.

### Inter-corporate Relationships

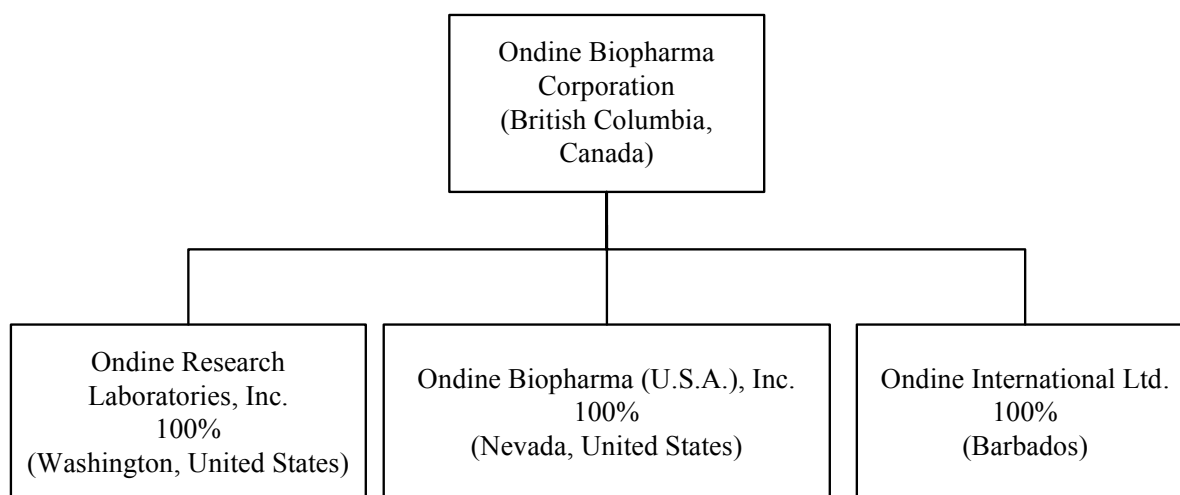
The Company has the following subsidiary companies:

Name	Jurisdiction of incorporation or organization	Percent of voting common shares owned by the Company
Ondine Research Laboratories, Inc. (ORL) <sup>(1)</sup>	Washington, U.S.A	100%
Ondine International Ltd. (OIL) <sup>(2)</sup>	Barbados	100%
Ondine Biopharma (U.S.A.), Inc. (OBU) <sup>(3)</sup>	Nevada, U.S.A	100%

Notes:

1. Incorporated in April 2004. ORL is primarily engaged in research and development on behalf of the Company.
2. Incorporated in December 2004. OIL owns the non Canadian rights to the intellectual property acquired by the Company pursuant to the RTO as described below.
3. Incorporated in April 2006. OBU is currently inactive. It previously performed certain sales and marketing functions on behalf of the Company.

The following chart illustrates the corporate structure of the Company and its subsidiaries:



Unless the context requires otherwise, all references in this AIF to the “Company” includes OBC and its subsidiaries.

## **GENERAL DEVELOPMENT OF THE BUSINESS**

### **Three Year History and Significant Acquisitions**

The Ondine Business commenced when OBI entered into the UCLB 1999 License Agreement and the UCLB 1999 Research Agreement with UCL in April 1999 under which OBI acquired the exclusive worldwide rights to develop treatments using PDD for use in the oral cavity, excluding only the right to use PDD for the treatment of caries as further described herein under “The UCLB 1999 License Agreement” in the “Describe the Business” section of this AIF. Effective August 2002, UCL assigned its rights in and to this agreement to UCLB.

From OBI's incorporation until June 30, 2003, approximately \$2.6 million (before expenses) was raised for the Ondine Business through various rounds of equity and debt financings. The net proceeds of the financings were principally used to fund the development of the PDD technology.

In March 2004, the Company completed the acquisition of the business and assets of the Ondine Business from OBI in consideration for a combination of a cash payment of \$400,000 and the issue of 10,000,000 payment warrants giving the shareholders of OBI the right to acquire an equivalent number of Common Shares for no additional consideration. The recapitalization transaction was dated March 31, 2004 and for accounting purposes was accounted for similar to a reverse takeover acquisition (RTO). The assets acquired by the Company pursuant to the RTO included all intellectual property rights, trademarks, patents and patents pending owned or held under license by OBI, and all rights of OBI under the 1999 UCLB License Agreement and the 1999 UCLB Research Agreement. The Company transferred the rights to its intellectual property to OIL in December 2004.

The Company raised \$3.1 million (before expenses) through a new issue of Common Shares at the time of the RTO. Since completion of the RTO and prior to March 24, 2009, the Company has raised approximately \$26.5 million (before expenses) through private placements of Common Shares and \$22.7 million (before expenses) through public offerings of Common Shares. The net proceeds of these financings have been and are being used by the Company for research and development; commercialization and marketing and sales of its first PDD product, Periowave™, in Canada and certain countries in Europe; preparations for the marketing of Periowave™ in the United States, subject to regulatory clearance; administrative costs; and for working capital.

The Company's Common Shares were listed on the TSXV on the completion of the RTO under the symbol OBP. On December 24, 2004, the Company's Common Shares were listed on the TSX and as a result, its shares were delisted from the TSXV on that date. The Company's Common Shares also trade on AIM, having been listed on that exchange on August 6, 2004. The Company's Common Shares trade under the symbol OBP on both the TSX and AIM.

## **DESCRIBE THE BUSINESS**

The Company develops non-antibiotic therapies for the treatment of a broad spectrum of bacterial, fungal and viral infections. The Company is focused on developing and commercializing products employing photosensitive compounds activated primarily by laser to provide targeted microbial destruction for oral care applications and for other infectious diseases. This process uses a platform technology known as “Photodisinfection” or “PDD” which combines the use of a light source and photosensitizing agent to treat infection. PDD provides broad-spectrum antimicrobial efficacy without encouraging the formation and spread of antibiotic resistance. The Company's first commercial product developed from the PDD platform is

Periowave™, a treatment for periodontal disease (an inflammation of the gums). The Company is pursuing development of PDD into other applications, including treatment of other indications in the oral cavity and for the treatment of MRSA, herpes simplex (cold sores), oral malodor, otitis externa, and onychomycosis.

The Company's head office is located in Vancouver, British Columbia, Canada, its research and development laboratory is in Bothell, Washington, USA, and it has an international office in St. Michael, Barbados. During the second quarter of 2007 the Company closed a sales and marketing office it had in York, Pennsylvania, USA with those functions being consolidated to its head office and to the Bothell facility.

### **PDD Technology**

Photodisinfection therapies are an emerging field of medicine utilizing light-activated drug compounds called photosensitizers in the treatment of disease. Photosensitizers preferentially attach to prokaryotic cells, thereby targeting these cells for destruction. Photosensitizers are biologically inactive until illuminated by a light source of an appropriate wavelength and intensity. Upon activation, the photosensitizer releases powerful oxidizing agents that result in the physical destruction of the target cell. This mode of therapy has already achieved regulatory clearance by the FDA and other country regulators as a treatment for a number of proliferative diseases, which include a variety of cancers as well as age-related macular degeneration of the eye, the primary cause of blindness in older patients.

The Company's strategy is to develop several applications using its PDD technology to address a new range of anti-infective applications, with an initial focus on the treatment of periodontal disease of the gums.

Management believes that PDD has applications in treating a variety of topical infections, involving the direct application of the photosensitizer to the site of disease activity. Because PDD's photosensitizers are topically applied, the generalized light sensitivity characteristic of systemic administration of photosensitizers is avoided. Treatment of the superficial disease site requires only a low-powered and relatively inexpensive light source compared to those used currently for the photodynamic treatment of cancers.

The photosensitizers used for PDD have been shown to target a variety of different microbial structures, including secreted toxins. Unlike antibiotics, which require hours to days to exert their effect, PDD works instantaneously to destroy microbes upon light activation. Management believes that these features make it highly unlikely that micro-organisms will develop resistance to PDD, making PDD a viable alternative to antibiotic treatment for non-systemic infections.

The Company's Periowave™ product is a non-invasive approach to the treatment of periodontal disease - the leading cause of adult tooth loss. Symptoms of periodontal disease include swollen, bleeding and receding gums, sensitive teeth, foul breath and eventual tooth loss if left untreated. Periodontal disease has recently been linked to serious health problems such as diabetes, heart disease, stroke, respiratory disease and premature births.

Periodontitis is characterized by a chronic, progressive bacterial infection that results in the destruction of the tissues that surround and anchor the teeth. The bacteria colonize and form a biofilm (a symbiotic colony of bacteria linked by a sugar-like matrix) on the periodontal tissues. A biofilm-based infection is more difficult to eradicate than an infection involving free-floating bacteria. Periodontitis is often treated with dental procedures such as SRP, flap surgery, or through the use of local or systemic antibiotics. None of these treatments used singly or collectively are universally successful in treating periodontitis. Management believes that treatments for periodontitis developed by competitors, which are not based on photodisinfection therapies, are often painful, relatively costly, and not always effective.

### **The UCLB 1999 License Agreement and UCLB 1999 Research Agreement**

OBI's rights under the UCLB 1999 License Agreement were assigned to OBC pursuant to the RTO and OBC's rights under the agreement were subsequently assigned by OBC to OIL in December 2004, except for the Canadian rights which are still held by OBC. Pursuant to the UCLB 1999 License Agreement, UCLB granted to the Company an exclusive worldwide license for the duration of the patents to develop, manufacture, have manufactured, use, sell and sub-license products which use the PDD process claimed under the patents in the oral cavity to kill oral micro-organisms, excluding only the treatment of dental caries on the surface of or within the root or structure of the tooth. The rights granted to the Company are subject to certain rights granted by UCLB to another company pertaining to the consumer market which are not relevant to the Company's near term strategic priority of focusing on the professional dental market. The Company is also aware that UCLB has granted a license of its PDD process for the treatment of dental caries and endodontics to Denfotex Ltd. ("Denfotex"), a private company headquartered in Inverkeithing, Fife, United Kingdom. As both the Company and Denfotex have undertaken activities in endodontics they have periodically had discussions with one another in an attempt to find a solution to this situation and UCLB has offered to assist in this process; however to date there has been no agreement between the companies as to their respective rights in endodontics. The Company does not currently offer a treatment kit for endodontics as part of its product line. A royalty is payable by the Company to UCLB based on a sliding scale according to annual sales revenues, subject to a minimum annual payment of £35,000.

The rights held by the Company include any further technology developed under the terms of the UCLB 1999 Research Agreement. Pursuant to the terms of the UCLB 1999 Research Agreement, the Company agreed, for a period of five years from September 30, 1999, to assist and provide funding of £300,000 to UCL to undertake specific research to assist in the commercialization of potential products. The Company advanced the full amount under this agreement of which £166,014 (\$407,612) was expensed as research and development costs in its consolidated statements of loss and the remaining balance of £133,986 (\$294,769) was applied to the Company's funding commitments under the UCLB 2006 Research Agreement as further described herein. The Company did not license any additional patented intellectual property from the work that was performed under the terms of the UCLB 1999 Research Agreement.

### **The UCLB 2006 License Agreement for Wound Care Technology**

Sources of infective microbes are prevalent throughout the environment and the skin is colonized by an enormous number of microbes which are kept in check by normal skin metabolism and an intact immune system. In many cases, trauma to the skin surface results in a greatly increased risk of infection because the primary barrier to infective microorganisms is thereby breached. *Staphylococcus aureus* is a common environmental and skin-surface pathogen which Management believes is a cause of a significant percentage of hospital derived infections. A growing number of *Staphylococcus aureus* strains are now being identified that are resistant to antibiotics. The PDD technique, which is the subject of the Option Agreement, aims to specifically target and kill such bacteria rather than merely inhibiting bacterial replication. The technology has been tested against MRSA *in vitro* and found to be very effective in selectively destroying MRSA in a mixed bacterial population.

In January 2006, the Company signed an exclusive license agreement (the "UCLB 2006 License Agreement"), effective April 15, 2005 (the "Commencement Date"), for worldwide royalty bearing rights for the duration of the patents to develop, manufacture, have manufactured, use, sell and sub-license products arising from the patents of UCLB described in UK patent application GB 0323699.9 entitled "Use of Photosensitisation", which technology is in the field of phage-mediated targeting for the photodisinfection therapy of infectious diseases. The Company has paid licensing fees of £75,000 (\$150,986) in connection

with its acquisition of the UCLB 2006 License Agreement, which were capitalized as an intangible asset. The licensing fees consisted of £37,500 (\$74,812) that was paid during 2006 in connection with the signing of the license agreement and £37,500 (\$76,174) that was paid during 2007 in connection with issuance of the first patent for this technology. In addition to the licensing fees paid in connection with this agreement, the Company is also obligated to pay UCLB royalties based on a percentage of product sales revenues and a percentage of any sublicense revenue realized by the Company. Subject to keeping the license in good standing, it will expire on a country by country basis on the later of a) ten years from the Commencement Date; or b) on expiry of the last issued patent for the technology in that country. This agreement also includes a minimum royalty obligation of £35,000 (\$62,600) per annum commencing in the calendar year that the licensed product is first approved for sale by a national agency in any country or territory.

### **The UCLB 2006 Research Agreement**

During 2006 to 2008 the Company contracted out certain of its research and development activities under a research agreement, as amended, that was entered into in May of 2006 with UCLB. The program, which was substantially completed by December 31, 2008, consisted of PDD based research conducted by UCL on derma-care, wound care, nasal, and oral infectious diseases. The Company was obligated to advance funding to UCLB totaling £529,499 (\$1,140,926) in connection with this agreement. As at December 31, 2008, the Company had advanced the full amount of the commitment which has been recorded during the periods the activities were performed as research and development expenses in the Company's consolidated statements of loss and comprehensive loss.

### **The UCLB 2008 License Agreement**

In July 2008, the Company signed an exclusive license agreement with UCLB (the "UCLB Antimicrobial Mixture License Agreement"), with an effective date of August 4, 2007 (the "Commencement Date"), for worldwide royalty bearing rights for the duration of the patents to develop, manufacture, have manufactured, use, sell and sub-license products arising from the patents of UCLB in the field of gold-nanoparticle photosensitizers for photodisinfection therapy for prevention and treatment of infectious diseases in humans and/or animals. In addition to a one time upfront license fee of £87,000 (\$172,239) that was paid in connection with this agreement, the Company is also obligated to pay UCLB royalties based on a percentage of product sales revenues, milestone payments during the first three years of sales of the first commercial product, and a percentage of any sublicense revenue realized by the Company. Subject to keeping the license in good standing, it will expire on a country by country basis on the later of a) ten years from the Commencement Date; or b) on expiry of the last issued patent for the technology in that country. This agreement also includes a minimum royalty obligation of £35,000 (\$62,600) per annum commencing in the calendar year that the licensed product is first approved for sale by a national agency in any country or territory.

## Patents

The UCLB 1999 License Agreement relates to the following patents/patent applications owned by UCLB:

Country	Patent No/Application No	Filing Date	Registration Date	Expiry Date
US	5611793	30 April 1993	18 March 1997	18 March 2014
Austria	159,661	30 April 1993	15 November 1997	30 April 2013
France	EP0637976	30 April 1993	29 October 1997	30 April 2013
Germany	69,314,949	30 April 1993	4 December 1997	30 April 2013
Italy	EP0637976	30 April 1993	29 October 1997	30 April 2013
Netherlands	EP0637976	30 April 1993	29 October 1997	30 April 2013
Sweden	EP0637976	30 April 1993	29 October 1997	30 April 2013
Switzerland	EP0637976	30 April 1993	29 October 1997	30 April 2013
UK	EP0637976	30 April 1993	29 October 1997	30 April 2013
Japan	519,088/93	30 April 1993	Pending	
Canada	2134479	30 April 1993	4 September 2007	30 April 2013

The 2006 UCLB License Agreement relates to an international patent application WO 2005/034997 entitled Use of Photosensitisation or Conjugate of a Photosensitiser and a Bacteriophage derived from the UK patent application GB 0323699.9 owned by UCLB. This Use of Photosensitisation patent is now issued in South Africa and applications are being prosecuted in Australia, Brazil, China, Canada, the European region, Japan, Hong Kong, Israel, Mexico, New Zealand, US, United Arab Emirates, Russia, and Egypt.

The 2008 UCLB License Agreement relates to an international patent application PCT/GB2007/002957 entitled Antimicrobials owned by UCLB. This patent application is being prosecuted in Europe, U.S.A., Canada, Israel, Japan, Australia, and South Korea.

The Company has filed other patent applications both in the United States and internationally. It intends to seek patent and trademark protection for inventions that it has developed such as i) the formulation of the photosensitiser; ii) other devices related to the periodontal application; iii) devices and know-how related to decolonization/disinfection of MRSA from the nose and other anatomical sites; and iv) other potential future applications of PDD for treatment of topical infections and other infectious diseases.

## Trademarks

The Company has identified and applied for potential product names that can be trademarked for branding its PDD treatment system. Registration of Periowave™ as a trademark is allowed in the United States, Europe, and Canada. Ondine Biopharma™ has been allowed in the U.S., Canada, and Europe. Solacin™ has been allowed in the U.S., Canada, and Europe. PDD™ has been allowed in the U.S. and Europe. The Company has received allowance to use the trademarks Photocidol™, Photocidex™, and Vitalwave™ in the United States. The Company has received allowance to use the trademark MRSAid™ in the United States, Canada, and Europe.

## Regulatory Clearances and Strategy

Regulations imposed by government authorities in the United States, Canada and other countries are a significant factor in the conduct of research and development, manufacturing and eventual marketing activities for a proposed drug or medical product. The requirements to achieve regulatory clearance can vary

widely depending on the country. In the United States, the development, manufacturing and marketing of drugs and medical devices are regulated by the FDA, in Canada by Health Canada, and in the Europe Union by the Medical Device Directives (MDD). All of these regulatory authorities impose regulatory processes which relate to the establishment of manufacturing standards and to the safety, efficacy and quality of the drug or device before it is used in clinical studies or is marketed.

During October 2005, the Company achieved ISO 13485 certification, a critical step to the commercialization of its Periowave™ product. At the same time, the Company received authorization, under the European Union's MDD, to affix the "CE Mark" to the Company's products. CE is an abbreviation of the French phrase "Conformité Européene" which means "European Conformity". The primary component of the certification process was an audit of the Company's quality management system conducted by an independent agency authorized to perform conformity assessments under ISO guidelines and the MDD. ISO 13485:2003 is an internationally recognized process-based quality management system standard for medical devices developed by the ISO. ISO 13485 specifies requirements for a Quality Management System ("QMS") which demonstrates the organization's ability to provide medical devices and related services that consistently meet customer and applicable regulatory requirements. The QMS entails staff training, customer and regulatory communication, product design and development, sourcing and purchasing of materials and services, and delivery of products and services. The Company is also subject to annual quality management system audits conducted by the independent agency to ensure the Company's systems continue to comply with applicable ISO guidelines and the MDD.

The Company received clearance from the Western Institutional Review Board, Olympia, Washington, United States, to conduct a clinical trial utilizing the Company's PDD technology for the treatment of adult periodontitis. The Company completed this study, as further described below, at an independent dental clinic in Everett, Washington, in the United States during 2005 and data from this study was used to support its license submission to Health Canada. The Company received a Class II medical device license from Health Canada in November 2005 which allows the Company to distribute and sell the Periowave™ system for the treatment of gum disease in Canada. Health Canada classified the Periowave™ system as a Class II medical device.

The Company is seeking regulatory clearance in the United States from the FDA for the sale of Periowave™, primarily for the treatment of gum disease. The Company's Periowave™ product has been designated by the FDA to be a combination product (device/drug). The FDA's Center for Devices and Radiological Health (the "CDRH") is presiding over the regulatory clearance process and the FDA's Center for Drug Evaluation and Research will provide consultative support. The CDRH has classified the Company's device as Class III (Premarket Approval, "PMA"), an automatic designation since no substantially equivalent system has been previously marketed. The Company intends to submit a PMA application to the FDA, which will include the Company's clinical trial data. In connection therewith, the Company intends to meet with the FDA in the latter part of March 2009 to review the clinical data prior to the submission of its application. It is expected that at the meeting the FDA will advise the Company whether it is in order for the Company to proceed with the submission of its application utilizing its existing clinical data or the FDA may request that the Company conduct additional clinical studies prior to filing its submission. If the Company is advised to proceed with the submission of its application utilizing its existing clinical data, the Company intends to file its submission during the second quarter of 2009. Please refer to "Regulatory clearance" under "Risk Factors" in this AIF for additional information concerning the FDA clearance process and related risks. For more information about the FDA and the submission review process please visit the FDA website at: [www.fda.gov](http://www.fda.gov).

The Company has also received the following regulatory clearances for additional applications of its PDD technology:

- A CE mark for decolonization of pathogenic bacteria, such as MRSA, in the nose valid in the EU and in certain other countries, received in September 2006;
- A Health Canada license for endodontics (root canal) applications, received in November 2006;
- A Health Canada license for the peri-implantitis, which includes peri-mucositis, applications, received in February 2007;
- A Health Canada license for decolonization of pathogenic bacteria, such as MRSA, in the nose, received in March 2007.
- A Health Canada license for decolonization of pathogenic bacteria, such as MRSA, in tracheotomy sites, received in March 2007.
- A Health Canada license for the gingivitis applications, received in March 2007;
- A CE mark for endodontics applications valid in the EU and in certain other countries, received in June 2007; and
- A CE mark for the peri-implantitis, which includes peri-mucositis, applications valid in the EU and in certain other countries, received in June 2007.
- A Health Canada license for the otitis externa applications, received in May 2008;
- A Health Canada license for a multi-purpose laser system that is suitable for a broad range of applications in high volume settings, such as hospitals and large institutions, received in May 2008.
- A Health Canada license for the Company's handheld Periowave™ photodisinfection system, received in March 2009. This system utilizes a new model of laser, which is a handheld version of the Company's current countertop laser base station.

Except for the peri-implantitis and gingivitis applications, the Company does not currently sell treatment kits for the above additional applications and further development work, including additional treatment kit design and manufacture, testing, and clinical marketing studies, may be required before the Company can successfully market products for the other additional applications. The Company's existing Periowave™ PDD system can be used for treatment of peri-implantitis and gingivitis in Canada in its current form. It is expected the new handheld Periowave™ system will be commercialized in the latter part of 2009.

### **Studies Conducted by the Company**

Prior to 2005, a number of pre-clinical studies were performed for the Company's first PDD application in both planktonic culture (petri dish) and biofilm culture (constant-depth film fermenter) for a variety of micro-organisms. In addition, testing was performed on animal models. Deployment in human volunteers was limited primarily to the testing of biometric factors such as probe design and other experimental hardware variables. Limited micro-biological sampling was also carried out.

In 2005, the Company completed in Everett, Washington, USA the first human study of its PDD system in patients with chronic periodontitis. This clinical study was a randomized, controlled study comparing SRP alone to SRP together with the Company's adjunctive PDD therapy. The addition of Periowave™ to SRP resulted in a statistically and clinically significant improvement in a primary endpoint, the clinical attachment level.

During 2006, the Company completed a clinical study on the use of the Company's Periowave™ PDD system for the treatment of periodontitis conducted at two universities in China in collaboration with the Loma Linda University School of Dentistry, Center for Dental Research, in Loma Linda, California, USA (the "Loma Linda Study") and during 2007 the Company has completed a clinical study at the University of British Columbia in British Columbia, Canada (the "UBC Study"). The Loma Linda Study was a prospective, randomized, controlled, blinded clinical trial, that was designed to evaluate the benefits of Periowave™ as a

maintenance therapy in patients with moderate to severe adult periodontitis. The UBC study was designed to evaluate the Periowave adjunctive treatment in the well-maintained, non-smoking periodontal patient.

On September 10, 2007, the Company announced results of a meta-analysis (statistical review of pooled clinical trial data) of its Periowave™ photodisinfection system in the treatment of gum disease. The analysis covered three trials enrolling a total of 126 patients at four clinical centers over the past two years. Among other data, the meta-analysis found that Periowave™ used in a re-treatment protocol (six weeks apart) produced 2.3 times more clinically relevant ( $\geq 2$  mm) pocket depth reductions than the gold standard of SRP alone ( $p < 0.0001$ ).

The studies included in the meta-analysis were the trial conducted at an independent clinic in Everett, WA, where clinically and statistically significant endpoints were achieved; the two-center study conducted by Loma Linda University, where clinically and statistically significant endpoints were achieved; and the study conducted by University of British Columbia, where it was found that the protocol allowed for too few patients meeting inclusion criteria to be recruited. Patients in the UBC study who did meet inclusion criteria were included in the meta-analysis. No treatment-related adverse events were reported at any center. Endpoints included pocket depth, clinical attachment level and bleeding on probing.

The meta-analysis results supported prior findings, demonstrating that Periowave™ was safe and effective in producing statistically and clinically relevant improvements in periodontal pocket depth compared to SRP. Periowave™ produced more than double the number of large ( $\geq 2$  mm) pocket depth reductions than SRP alone ( $p < 0.0001$ ). The results were achieved across studies that incorporated different ethnic groups, smoking status, treatment protocols and laser power levels.

During 2006, the Company initiated post marketing approval clinical studies on the use of Periowave™ for the treatment of periodontitis that were conducted in Canada and at University College London Hospital, Eastman Dental Institute, in the United Kingdom. These trials were designed to evaluate Periowave™ for the treatment of periodontitis in adults. The results from these trials will be used to support sales and marketing efforts in Canada, in Europe, and in the United States, subject to regulatory clearance. The clinical study in Canada consists of a multi-centered trial conducted at the University of Alberta, University of Western Ontario, University of Saskatchewan and the North York Dental Centre, a private practice. The patient visits for these studies were completed early in the fourth quarter of 2007.

In May 2008, Ondine announced the results from the Canadian Multi-Centre Trial, which was the largest study to date. The trial compared the photodisinfection system to the gold standard of scaling and root planing (“SRP”) alone for the treatment of periodontal disease. The trial was a prospective, randomized, examiner-blinded study that included 121 patients and 5,330 defect treatment sites. Fifty-eight patients were included in the photodisinfection treatment arm and sixty-three patients were included in the control arm. Two formats of laser system were used in this study: the first was a lower-power first generation laser unit and the second was the Company’s commercially available higher-power Periowave™ PDD System. The results showed the lower-power lasers were not able to achieve statistical or clinical significance on any endpoint. Only the patients in the study treated with the Periowave™ PDD System met both the primary endpoint, improvement in clinical attachment level (CAL), and the secondary endpoint, improvement in pocket depth (PD). For all pockets averaged together for those patients, the improvement in CAL was 154% of SRP alone ( $p = 0.003$ ) and the improvement in PD was 138% of SRP alone ( $p = 0.01$ ). More information about this trial can be found on the ClinicalTrials.gov website: <http://clinicaltrials.gov/ct2/show/NCT00297531>.

The Company has also completed the analysis of the results of the study conducted at UCLH. The primary endpoint in this study was reduction in probing depth (PD), while secondary endpoints included gain in

clinical attachment level (CAL) and bleeding on probing (BOP). As seen in several prior studies conducted by the Company, the reduction in PD in patients treated with the low-power first generation lasers, for all teeth with an initial PD  $\geq 5$  mm and BOP, or in all measured pockets (both treated and untreated), versus SRP alone did not reach statistical significance ( $p > 0.05$ ). The same conclusion was also true for gain in CAL, either for those teeth with an initial PD  $\geq 5$  mm and BOP or for all measured pockets (both treated and untreated) included in the analysis. However an analysis of the reduction in PD stratified by PD at baseline demonstrated that reduction in PD was related to the initial extent of disease. Reduction in PD for teeth with initial PD of  $5\text{mm} \leq \text{PD} < 6$  mm was highly significant when compared to SRP controls ( $p < 0.0001$ ). Similarly, the reduction in PD for teeth with initial PD of  $6\text{mm} \leq \text{PD} < 7$  mm was highly significant when compared to SRP controls ( $p < 0.001$ ).

The total enrolment in the studies described above was 376 patients.

During 2009, the Company also intends to initiate a clinical study for marketing and regulatory purposes on the use of its PPD system for the decolonization of pathogenic bacteria, including MRSA, in the nose.

### **Product Description**

The first product which the Company has commercialized is for the treatment of periodontal disease. The product, called "Periowave™", is a site-specific and microorganism-specific treatment that provides an entirely new protocol for the reduction of periodontal pathogens. The Periowave™ system is intended to be used as an adjunctive treatment to the standard method currently used in dentistry, SRP. As an adjunctive therapy, Periowave™ gives clinicians the ability to enhance patient care within a traditional dental hygiene framework.

The Periowave™ product consists of a laser system with a custom designed handpiece and patient treatment kits of photosensitizing solution. The treatment consists of two steps. Photosensitizing solution is applied into the periodontal pocket and then a low intensity laser light is placed into the pocket and illuminates the treatment area for a period of sixty seconds. The activated photosensitizer used in the Periowave™ system catalyses oxygen-derived free-radical reactions in the local environment which lethally disrupt pathogenic bacteria and related toxins.

The Periowave™ system business model consists of a one-time hardware purchase (a counter top laser base station with a reusable hand piece) along with on-going purchases of consumables in the form of single-patient treatment kits that contain a syringe that is pre-filled with the photosensitizer solution, a sub-gingival irrigator tip, and a light diffusing tip. Installation of a laser base station should therefore provide the Company with an on-going revenue stream from the use of the consumables by the practitioners employing the system.

### **Production Strategy**

The Company's production strategy involves the use of scalable contract manufacturers. Using contract manufacturers allows the Company to focus on product design, reduce up front capital expenditures, respond quickly to changes in demand, and choose best practice partners. Creation Technologies Inc., at their facility in Burnaby, British Columbia, Canada, manufactures the Company's laser base station and related hardware since commencement of sales in 2006. Oratech LLC., based in Salt Lake City, Utah, USA, manufactures the patient treatment kits that contain the photosensitizing solution. In addition, during 2007 Accupac, Inc., based in Mainland, Pennsylvania, USA, was added as a potential supplier of patient treatment kits. The Company plans to use Accupac, Inc. in the future as its primary source for purchases of its patient treatment kits.

However, at this time the Company has not transferred the production of its patient treatment kits to Accupac, Inc. and is therefore continuing to use Oratech LLC. as its primary supplier.

### **The Market for the Company's Initial Application**

Management believes that the primary market for the Company's Periowave™ product will be the North American dental market, which consists of more than 140,000 general dentists and 6,000 periodontists, together with government agencies, dental schools and universities. Manufacturers supply products and services to this market either on a direct-sale basis or through a dental dealer or distributor network. Such networks are numerous and range from small operators, working on a local city or state basis, to regional distributors covering multiple states, and ultimately to large publicly listed national distributors.

The Company's Periowave™ photodisinfection product is targeted at the oral care professional dental market, which management believes currently represents just under 5% of the overall health care market in the United States. In 2000, the total oral care market in the United States was estimated at US\$56 billion, of which management believes US\$6 billion is related to the treatment of periodontal disease.

The Company has initiated sales to distributors in certain countries in Europe as further described herein. The Company expects that the principal market in Europe will be Germany, which is the third largest dental market in the world. Although sales to these markets could potentially be significant from time to time, the Company intends to focus the majority of its resources and time on the North American dental market.

### **Sales and Marketing Strategy**

The Company has established marketing and sales departments in Canada to support the marketing of Periowave™ in Canada. The Company distributes its products in Canada primarily through Henry Schein Canada, Inc. ("HSC") and through two other distributors as further described below. The Company sales department in Canada currently includes three business development associates located across Canada that work in conjunction with its distributors to facilitate sales. Working in conjunction with the distributors' sales force, each business development associate is responsible for promoting the Company's products and providing customer training and support in their assigned geographic area. The Company believes that a key component of its sales strategy is the personal contact of its business development associates with individual dentists and dental hygienists. In addition to these initiatives, among other things, the Company i) participates in dental association conferences across Canada, including arranging for qualified professionals to make presentations at these conferences concerning the Company's technology, ii) holds seminars for dental practitioners, iii) provides training by registered dental hygienists to dental practitioners in the use of the Company's product with the objective of increasing treatment kit utilization rates iv) advertises the Company's products in recognized dental industry publications, v) conducts market research studies, vi) works with its distributors to promote the Company's product, and vi) operates a website on the Internet to provide product information and for educational purposes.

Periowave™ was first made commercially available in Canada on March 9, 2006 at the Pacific Dental Conference held in Vancouver, British Columbia. The Company commenced product shipments to HSC during April 2006. During 2008, sales of the Periowave™ photodisinfection product generated revenue for the Company of \$0.91 million (2007-\$1.6 million) and a gross profit margin of \$185,000 (2006-\$820,000). Sales during 2008 consisted primarily of sales in Canada to the Company's distributors. Sales during 2007 included a \$220,000 sale of Periowave™ laser base stations to the Radcliffe Foundation, which donated them to certain universities and colleges across Canada, and a \$271,000 sale of Periowave™ laser base stations and treatment kits to a distributor in Germany as an initial order.

During 2009, the Company intends to continue with its sales in Canada and; ii) continue to sell Periowave™ through its distributors in certain countries in Europe.

The Company intends to use the experience it gains in Canada to assist in selling Periowave™, subject to obtaining FDA clearance, in the United States as further described below.

### **Sales and Distribution Partners**

On December 13, 2004, the Company entered into a strategic Master Distributor Agreement pursuant to which Henry Schein, Inc. (“HSI”) the largest distributor of healthcare products and services to office-based practitioners in the combined North American and European markets, upon the occurrence of certain events, will be the exclusive distributor of dental products utilizing Ondine’s PDD technology in agreed territories through-out the world. In early 2006 a Territory Distribution Agreement for the Canadian market was signed with HSC, HSI’s wholly owned subsidiary in Canada. In February 2008, the Company cancelled its exclusive distribution agreement for the Canadian market with HSC, who continues to distribute the Company’s Periowave™ system on a non-exclusive basis. During the second and third quarters of 2008, the Company commenced distribution of its Periowave™ system in Canada through two additional national distributors, Patterson Dental Canada Inc. (“Patterson”) and Sinclair Dental Co Ltd. (“Sinclair”). Patterson is a major distributor of dental consumable products and equipment, including high-tech equipment, across Canada. It is a subsidiary of Patterson Companies, Inc., a large public company based in the United States that is one of the two largest dental distribution companies in North America. Sinclair Dental Co Ltd. has over 400 employees and distributes a wide variety of dental products, including high-tech equipment, across Canada from British Columbia to Quebec.

In Europe, the Company distributes through specialized agents who do not utilize the fulfilment capabilities of HSI’s European subsidiaries. The Company’s current distributors in Europe distribute directly to end users. The Company believes at its current stage of development this approach is a more cost effective method for entering the European market than employing its own specialist sales team, as is being done in Canada.

Subject to receipt of regulatory clearance, the Company expects that Periowave™ will be launched in the United States market. The timing of that launch is uncertain as it will depend, among other things, on when the FDA completes their review of the Company’s submission and whether or not the FDA grants the Company clearance to market its products in the United States. There are various methods that the Company could use to enter the US market, including among other things, employing its own sales force in conjunction with an exclusive distributor, such as HSI, or on a non-exclusive basis with distributors as is currently being done in Canada, using a third party sales force, or partnering with another company with pre-existing distribution capabilities. Because of the costs involved in a product launch in the United States, the Company considers strategic partnering with another company with pre-existing distribution and financial capabilities as the most viable method of entering the United States market. Accordingly, during 2009, the Company does not expect to spend a significant amount on its United States market launch plans. If the Company were to select an alternative distribution method to launch Periowave™ in the United States market, the Company would require substantial additional funding.

### **Competition**

In the dental arena, the use of laser light sources in general treatment regimes is routine. However, the current commercial application of PDD for the treatment of periodontal disease or for other oral applications is limited. Management is aware of competing PDD dental systems as follows:

- HELBO Photodynamic Systems GmbH & Co KG (“HELBO”), is a private company headquartered in

Grieskirchen, Austria that sells a PDD dental system that uses a laser light source. The system is advertised for use in the treatment of periodontitis, peri-implantitis, and for endodontics applications. HELBO's PDD product has received a CE Mark and is currently being offered for sale in Germany, Austria, Switzerland, and Great Britain.

- Denfotex Ltd. ("Denfotex"), a private company headquartered in Inverkeithing, Fife, United Kingdom has received a CE Mark for a PDD system using a laser light source. The system is advertised for use in the treatment of caries and for endodontics applications and is marketed through distributors in certain countries in Europe, in the Russian federation and Baltic States, in Canada, and in the United Kingdom. Denfotex has also recently introduced a PDD system using a LED light source which is advertised for use in the treatment of caries, periodontitis, peri-implantitis, and for endodontics applications.
- SciCan Medtech AG ("SciCan"), a private company located in Zug, Switzerland that distributes medical and dental products in Canada and in Europe, distributes in Europe a PDD dental system that uses Denfotex's technology and which is advertised for use in the treatment of caries and endodontics. Denfotex has also recently introduced a PDD system in Canada using a LED light source that is advertised for use in the treatment of caries, periodontitis, peri-implantitis, and for endodontics applications.
- Cumdente GmbH ("Cumdente"), a private company located in Tubingen, Germany that distributes dental products in Germany, previously distributed a PDD dental system that uses Denfotex's laser based technology and which was advertised for use in the treatment of caries, endodontics, peri-implantitis, and for certain other soft tissue use in the oral cavity. Cumdente has recently introduced its own PDD system that uses a laser light source. The advertised uses for the Cumdente PDD product are caries, periodontitis, peri-implantitis, and for endodontics applications. The Company believes certain of the applications for Cumdente's PDD product that are displayed on Cumdente's website violate the Company's intellectual property rights. The Company has asked Cumdente to remove the references to those applications. Cumdente has not ceased the activities which the Company believes are violating the Company's rights. The Company is examining its options in connection with this matter.
- Prodigal Dental, a Division of Prodigal Enterprises Inc., is a company domiciled in Canada that distributes in Canada PDD systems that use the Denfotex laser based technology and which are advertised for use in the treatment of caries and for endodontics applications.

The information presented above is primarily based on the websites of the respective companies.

The Company believes that, although it is difficult to fully assess the potential impact of these competing products, the dental market for the Company's products is of sufficient size that the presence of these competitors does not preclude the Company's product from being successful in those markets.

Management is not aware of any PDD based dental systems currently being distributed in the United States.

Current standard treatments for periodontal disease are SRP and antibiotic based products used as an adjunctive therapy with SRP. Management is aware of the existence of the following adjunctive therapy products which are competitive to the Company's periodontal disease product. All of these products have been approved for marketing for chronic destructive adult periodontal disease:

PRODUCTS	COMPANY	MECHANISM OF ACTION
Periostat®	Collagenex Pharmaceuticals, Inc.	Oral low dose of doxycycline antibiotic
Atridox®	Collagenex Pharmaceuticals, Inc	Gel doxycycline antibiotic, placed subgingivally
PerioChip®	Dexcel Pharma Technologies Ltd.	Biodegradable chip of antiseptic chlorhexidine

Arestin®	OraPharma Inc.	Controlled-release minocycline antibiotic
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Management believes that the Company's Periowave™ system is competitively priced and has the following additional advantages over existing products for treating periodontal disease:

Ondine's Periowave™ system vs. systemic or tablet form antibiotics

The Company's Periowave™ system eliminates both the pathogens as well as the toxins produced by those pathogens, and employs a localised minimally invasive approach that does not require patient compliance with a course of treatment. Unlike systemic antibiotics, use of Ondine's Periowave™ system is not expected to encourage the evolution of microbes that are resistant to the PDD method of treatment.

Ondine's Periowave™ system vs. subgingival antibiotics or antiseptics

Application of the Company's Periowave™ system does not require advance preparation and does not require patient hygiene compliance after treatment. The solution used in Ondine's Periowave™ system is flushed out of the infected periodontal pockets after application and accordingly it does not oppose gum reattachment by separating gum tissue from the tooth.

## **Employees**

The Company currently employs i) 11 persons in its Bothell, WA, office, primarily to conduct specialized research and development ("R&D") activities and to maintain the Company's quality systems; ii) 11 persons in its Vancouver office, 2 of which are currently on maternity leave, 7 are primarily engaged in the management and administration of the Company's business activities and 2 are involved in sales and marketing activities, including one business development associate; iii) an additional 3 business development associates in Canada, one of which is located in Alberta and the other two are located in Ontario; and iv) 2 persons in Barbados to manage its international activities. In addition, the Company engages from time to time various contractors and consultants to assist in the operations, scientific research, and development of its business. These employees and consultants have backgrounds and training in business, medicine and dentistry, scientific research and development, regulatory, marketing and sales, accounting and taxation, computers, digital electronics, and product design fields. The Company has reduced its number of employees from 36 to 27 over the last year primarily due to the need to conserve the Company's cash reserves given the deterioration in economic conditions, capital markets, and business prospects which occurred during 2008 and early 2009. The Company will need to further reduce its number of staff if it is unable to raise further financing to continue its operations.

## **Business Objectives**

Having launched Periowave™ in Canada, the Company's near term objective is to successfully complete the implementation of its production and sales and marketing strategies as outlined herein. The experience gained in the Canadian market will be used to assist the Company in marketing Periowave™ in other markets such as in selected countries in Europe and in the United States, subject to regulatory clearance. During 2006, the Company obtained a CE Mark for the Periowave™ system which allows the Company to sell Periowave™ in the European Union and certain other countries. During 2008 and 2007, the Company opportunistically sold Periowave™ through distributors in Europe in the United Kingdom, Spain, Italy, and Germany. The focus of the Company during 2007 and 2008, outside of the Canadian market, was to pursue FDA clearance for its product which would allow the Company to sell Periowave™ in the United States. The Company is currently preparing a PMA submission to be filed with the FDA, the status of which is further described herein. In

addition, subject to the successful completion of research and development programs and regulatory clearances, the Company intends to expand its product line utilizing its PDD technology to treat certain other medical conditions, including treatment of other indications in the oral cavity and the treatment of MRSA, herpes simplex virus (cold sores), oral malodor, otitis externa, and onychomycosis.

During the next 12 months the Company's primary business objectives are to:

- Raise additional financing to fund the Company's ongoing operations through the issuance of equity or debt, or through a strategic partnership, or through the sale of certain of the Company's assets.
- continue to market Periowave™, primarily in Canada;
- file a PMA submission with the FDA to obtain clearance to market Periowave™ in the United States, primarily for the treatment of periodontitis;
- complete a clinical study for marketing and regulatory purposes utilizing the Company's PDD technology for the eradication of pathogenic bacteria in the nose, primarily MRSA;
- seek strategic partners to assist in the development of certain of the Company's proposed products;
- develop additional patentable intellectual property; and
- expand the applications of the Company's PDD technology.

## **RISK FACTORS**

An investment in the Company involves a high degree of risk. Accordingly prospective investors should carefully consider the specific risk factors set out below, in addition to the other information contained in this document, before investing in the Common Shares.

Management considers the following risks to be the most significant for potential investors in the Company, but the risks listed do not necessarily comprise all those associated with an investment in the Company. Additional risks and uncertainties not currently known to management may also have an adverse effect on the Company's business.

If any of these risks actually occur, the Company's business, financial condition, capital resources, results, and/or future operations could be materially adversely affected. In such a case, the price of the Common Shares could decline and investors may lose all or part of their investment.

Potential investors are accordingly advised to consult with an appropriately qualified person, who specializes in advising on investments of this kind, before making any investment decisions. A prospective investor should consider carefully whether an investment in the Company is suitable in the light of his or her personal circumstances and the financial resources available to him or her.

### **Financial resources**

The Company's future financial capital requirements will depend on numerous factors, including the speed at which the Company can bring products to market, gain market acceptance of the Company's products and its ability to expand its customer and distribution base for its products.

In the future, the Company will require additional funds and may attempt to raise additional funds through equity or debt financings, collaborative arrangements with commercial partners or from other sources. Any additional equity financing may dilute an investor's holdings in the Company. Any debt financing, if available, may require restrictions to be placed on the Company's future financing and operating activities. The Company may be unable to obtain additional financing on acceptable terms if market and economic conditions, the financial condition or operating performance of the Company, or investor sentiment, are unfavourable. If the Company is unable to raise further funds its ability to grow its business in the future may be hindered and the directors may be required to review or change the business strategies of the Company.

Based on the Company's current level of activities and its future plans, the Company needs to raise additional capital in the near term to continue with its planned activities. No assurances can be given that additional funding will be available or, if available, that it will be on terms that are acceptable to the Company. There is a risk that in early 2009 the Company could have insufficient cash to operate its business if it is unable to raise further funding. The Company believes the current challenging conditions in the capital marketplace will make it more difficult and time consuming than normal for companies at its stage of development to secure additional funding. Various other options are being pursued to raise funds, such as through strategic partnerships or the sale of certain of our assets. In addition, the Company has and will continue to reduce its expenses and to defer capital outlays in order to extend the period it can operate utilizing its existing cash balances. However such reductions and deferrals may not be sufficient to allow the Company to continue in business unless it is able to obtain further cash to fund its operations. Should the Company be unable to obtain additional funding in a timely manner, it would have to severely curtail its activities and there can be no assurances that the Company will be able to continue in business.

### **Current Global Financial Condition**

Current global financial conditions have been subject to increased volatility and numerous financial institutions have either gone into bankruptcy protection or have had to be rescued by governmental authorities. Access to public financing has been negatively impacted by both sub-prime mortgages and the liquidity crisis affecting the asset-backed commercial paper market. These factors may impact the ability of the Company to obtain equity or debt financing in the future and, if obtained, on terms favourable to the Company. If these increased levels of volatility and market turmoil continue, the Company's operations could be adversely impacted and the trading price of the Common Shares could continue to be adversely affected.

### **Share price volatility**

The share prices of publicly traded emerging companies, and particularly of biotechnology companies, can be highly volatile, especially during an economic slowdown, as was the case during the latter part of 2008 and early 2009. The price at which the Common Shares will be quoted, and the price which investors may be able to realize for their Common Shares, will be affected by a large number of factors, some which are specific to the Company and its operations, and others which relate to the biotechnology industry as a whole, as well as general market conditions and sentiment.

The Company's share price could fluctuate significantly in the future for the following reasons:

- future announcements concerning the Company or its competitors;
- the introduction of new products or changes in product pricing policies by the Company or its competitors;
- an acquisition or loss of significant customers, distributors and suppliers;

- regulatory developments;
- intellectual property developments;
- the commencement of material litigation against the Company; or
- fluctuations in the economy or general market conditions.

### **Limited operating history and history of losses**

The Company's business was at the research and development stage for a significant portion of its history, with the first product, Periowave™, only recently being commercialized and sold commencing in Canada in April of 2006. Sales through distributors in selected countries of Europe were initiated in late 2006 and continued during 2007 and 2008. To date sales of Periowave™ have been very limited and there can be no guarantee that sales efforts will be successful. Management intends to sell Periowave™ in other markets, subject to regulatory clearance; however there can be no assurances that the Company will be able to obtain regulatory clearance in those markets or that these efforts will be successful. In addition, except as otherwise disclosed in this AIF, management does not anticipate that the other proposed products which the Company is developing will be commercialized for some time. Regulatory clearance will be required prior to any sales of these products, and such clearance cannot be assured. In addition, the Company has a limited operating history, has generated limited revenues to date from its business, and has a history of operating losses. From the Company's date of incorporation to December 31, 2008, the Company has an accumulated net deficit of approximately \$53,943,000, substantially consisting of accumulated operating losses. There can be no assurances that the Company will become profitable in the future.

### **Competition**

The business carried on by the Company is competitive and involves a high degree of risk. There can be no assurances that future sales revenues, if obtained, will be of sufficient amounts to render the Company profitable. There can be no assurances that the Company's proposed products can be developed on a cost effective basis or otherwise. Competitors, primarily in the United States, Canada and Europe, are numerous and include pharmaceutical, chemical and biotechnology companies, many of which have substantially greater capital resources, marketing experience, research and development staff and facilities than the Company, and development of products by them could render the Company's products obsolete. In addition, the Company's only commercially available product and certain of its proposed products uses technology similar to products offered by other companies as described under "Competition" in the "Describe the Business" section of this AIF. Products offered by these competitors may be used by the purchaser for applications that infringe on the Company's intellectual property and it may be difficult for the Company to monitor and prevent such usage.

Smaller companies may also prove to be significant competitors, particularly through collaboration with larger pharmaceutical and established biotechnology companies. Many of these competitors have significant products that have been approved or are in development and operate large, well-funded discovery and development programs. Management cannot assure that the Company's competitors will not develop more effective or more affordable products, or achieve earlier patent protection, regulator clearances, or product commercialization than the Company.

Other companies may succeed in developing products earlier than the Company, obtaining government regulatory clearances for such products more rapidly than the Company, or in developing products that are more effective than the products the Company has developed or proposes to develop. While the Company

will seek to expand its technological capabilities in order to remain competitive, there can be no assurance that research and development by others will not render the Company's products or technology obsolete or non-competitive.

### **Ability to agree upon contractual arrangements with key partners and customers**

As the Company is at an early stage in the commercialization and marketing of its products, it is also at an early stage of developing relationships with key customers and partners, and there is no assurance that any relationships will result in revenue generating contracts for the Company. The Company's strategy includes subcontracting and forming partnerships or joint ventures to manufacture, market and distribute the Company's products. Although the Company has entered into distribution agreements in the past and it currently has agreements with distributors in various countries, there can be no guarantee that similar agreements for other markets will be concluded.

The success of the Company will depend in part upon the agreements it is able to reach with key partners and customers and how these parties perform their obligations under such agreements, including the compliance of subcontractors with the stringent quality control specifications for manufacture of the Company's products. There can be no assurance that the Company will be able to enter into satisfactory arrangements on favourable terms, or at all, in the future, or that these arrangements will be successful. The amount and timing of resources such third parties will devote to these activities may not be within the Company's control and there can be no assurance that such parties will perform their obligations as expected. If the Company is not successful in forming partnerships or joint ventures for the manufacture, marketing and distribution of its products, or if such arrangements are not satisfactorily performed, this could have an adverse effect on the Company's business, ability to generate revenues, operating results and financial condition.

### **Intellectual property, patent protection and confidentiality**

The Company is actively engaged in the development of products and technology which must be protected by intellectual property rights. The Company will seek patent and trade-mark protection for its intellectual property rights. The commercial success of the Company depends, in part, on its ability to obtain patents, or licenses to patents, maintain trade secret protection and enforce the Company's rights against others. The Company may not be able to obtain patent protection for key elements of its technology. The patent positions of biotechnology companies are uncertain and involve complex legal and factual questions for which important legal issues are largely unresolved.

There can be no assurance that:

- patent applications will result in the issuance of patents;
- additional products developed will be patentable;
- licenses obtained from third parties will not be terminated;
- patents will provide adequate protection or any competitive advantages;
- patents will not be successfully challenged by any third parties; or
- the patents of others will not impede the Company's ability to commercialize its technology.

The Company cannot be certain that the steps taken to protect the intellectual property it uses will be adequate or that third parties will not infringe or misappropriate the Company's proprietary rights, or that such intellectual property does not infringe on the intellectual property rights of third parties. In particular, no assurance can be given that, for patents licensed or to be licensed by the Company, any grant of a patent will be sufficiently broad in its scope and territory of application to provide protection for the Company's or UCLB's technology or products incorporating such technology and to exclude competitors with similar technology. In addition, there can be no assurance that patent applications which are pending, or which the Company or UCLB will make in the future, will be successful or that patents granted or licensed to the Company or UCLB will not be successfully challenged.

There can be no assurance the Company can meaningfully protect its right to unpatented proprietary technology or that others will not independently develop substantially equivalent or superior technology. There can also be no assurance that the Company's trade secrets will not be independently acquired by others.

Certain of the Company's technology and trade secrets are regarded by the Company as confidential information. The Company endeavours to maintain the confidentiality of such information; however it may nonetheless be disclosed by employees or third parties and thereby become available for use by competitors.

Light treatment therapies are not new and are being studied extensively for possible uses in connection with many different kinds of health-related applications. As a consequence, further patents are likely to be issued in this area, some of which may relate to specific treatments that could impact on the Company's ability to develop other applications for the PDD technology.

Litigation may be necessary to enforce patents issued, assigned or licensed to the Company, and/or to determine the scope and validity of a third party's proprietary rights. The Company could incur substantial costs if it is required to defend itself in patent suits brought by third parties or if it initiates patent suits or participates in such suits brought against or initiated by UCLB, and there can be no assurance that funds or resources would be available to the Company in the event of any such litigation. Additionally, there can be no assurances that the Company or UCLB would prevail in any such action. An adverse outcome in litigation or other proceedings could subject the Company to significant liabilities, require disputed rights to be licensed from other parties or require the Company to cease using certain technology or products, any of which could have a material adverse effect on the business of the Company.

### **Dependence on the agreements with UCLB**

The Company's business is dependent on the intellectual property rights licensed from UCLB. The termination of the Company's agreements with UCLB would have a material adverse effect on the Company's business, revenues, operating results and financial condition.

### **Regulatory clearance**

The Company has received licenses from Health Canada, allowing it to sell Periowave™, its first product, for the treatment of periodontitis and for certain other indications in the oral cavity in Canada and a CE Mark allowing the Company to sell Periowave™ for the treatment of periodontitis and for certain other indications in the oral cavity in the European Union and certain other countries. The Company has also received licenses from Health Canada and a CE Mark for certain other applications outside the oral cavity as further described under "Regulatory Clearances and Strategy" in the "Describe the Business" section of this AIF. The Company intends to market Periowave™ in the United States and other markets, subject to regulatory clearance, and to develop additional products using its PDD technology which at present have not received all

the required regulatory clearances for commercial use and sale in any market. There is a risk that the Company may not be successful in obtaining the required regulatory clearances to sell Periowave™ in the United States and other markets or for the commercialization of its other proposed products.

In the United States the Company's products are subject to regulation by, among other governmental entities, the FDA. The FDA regulates the introduction, manufacture, advertising, labeling, packaging, marketing, distribution, and recordkeeping for such products. In manufacturing and marketing its products, the Company must comply with FDA regulations and is subject to various other FDA recordkeeping requirements and to inspections by the FDA. The testing for and preparation of required applications can be expensive, and subsequent FDA review can be lengthy and uncertain. Moreover, clearance or approval, if granted, can include significant limitations on the indicated uses for which a product may be marketed. Failure to comply with applicable FDA regulations can result in fines, civil penalties, suspensions or revocation of clearances or approvals, recalls or product seizures, operating restrictions or criminal penalties. Delays in receipts of or failure to receive, clearances or approvals for the Company's products for which such clearances or approvals have not been obtained would adversely affect the marketing of such products in the United States and could adversely affect the results of future operations.

The Company must obtain FDA or foreign regulatory approval or clearance for marketing the Company's new devices prior to their release. There are two primary means by which the FDA permits a medical device to be marketed. A manufacturer may seek clearance for the device by filing a 510(k) premarket notification with the FDA. To obtain such clearance, the 510(k) premarket notification must establish that the device is "substantially equivalent" to a device that has been legally marketed or was marketed before May 28, 1976. If a manufacturer cannot establish to the FDA's satisfaction that a new device is substantially equivalent to a legally marketed device, it will have to seek approval to market the device through the premarket approval application ("PMA") process. This process involves preclinical studies and clinical trials. The process of completing clinical trials, submitting a PMA and obtaining FDA approval takes a number of years and requires the expenditure of substantial resources. In addition, there can be no assurance that the FDA will approve a PMA. The Company's export activities and clinical investigations also are subject to the FDA's jurisdiction and enforcement.

The FDA may request the Company to perform additional clinical trials in support of the Company's submission to the FDA to enable the Company to sell Periowave™ in the United States. Although the Company has completed a number of trials, there can be no assurance that the trial results will be considered satisfactory by the FDA, that the results of any future clinical trials that the Company may conduct will be considered satisfactory by the FDA, or that Company will be able to complete any additional trials it is requested to conduct in a timely manner or at all. The FDA may also require the Company to provide long-term trial data which would add additional costs and delay the launch of Periowave™ in the United States market. In addition, there may be other reasons that could cause a delay in the FDA clearance process.

The Company may be unable to meet product development milestones for the commercialization of the additional products it is developing. The success of the Company depends on its ability to successfully obtain regulatory clearance to sell Periowave™ in other markets and to commercialize additional products. While potential products may appear to be promising at various stages of development, they may nonetheless fail to meet regulatory clearance for a number of reasons, including:

- lack of sufficient treatment benefit or unacceptable safety issues that are identified during pre-clinical or clinical studies;
- the results from pre-clinical and early clinical studies not being predictive of results obtained in large scale studies or usage;

- the FDA or other regulatory authorities suspending the Company's clinical studies at any time if, among other reasons, it concludes that patients participating in such studies are being exposed to unacceptable health risks;
- unsatisfactory results after completion of clinical studies;
- revised legislation or regulatory clearance guidelines; and/or
- inability to develop manufacturing methods that are efficient, cost-effective and capable of meeting stringent regulatory standards.

The development, manufacture and sale of medical devices and human therapeutic products in Canada, the United States and internationally is governed by a variety of statutes and regulations. These laws require, among other things:

- approval of manufacturing facilities and practices;
- adequate and well-controlled research and testing of products in pre-clinical and clinical trials;
- review and approval of submissions containing manufacturing, pre-clinical and clinical data in order to obtain marketing approval based on establishing the safety and efficacy of the product for each use sought, including adhering to good manufacturing practices (GMP) during production and storage; and
- control of marketing activities, including advertising and labeling.

Product development and clearance within the regulatory framework to which the Company is subject can be uncertain, may take a number of years, and involves the commitment of substantial financial and human resources. In addition, there can be no assurance that the current regulatory framework will not change or that additional regulation will not arise at any stage of product development that may affect clearance, delay the submission or review of an application, or which may require additional expenditures by the Company. Any change in connection with the Company's ability to market Periowave™ in Canada due to regulatory matters, in the Company's ability to obtain regulatory clearance for Periowave™ without significant delay in other markets or for the regulatory clearance of the Company's proposed additional products could have a material adverse effect on the Company's business, revenues, operating results and financial condition.

### **Results of clinical studies**

The results of the Company's completed preclinical studies and clinical studies may not be indicative of the results of clinical studies in progress, of future clinical studies, or of the results achievable from the commercial use of the Company's products. A commitment of substantial resources to conduct time-consuming research, preclinical studies, and clinical studies will be required if the Company is to complete the development of its products or if the Company is required to perform additional clinical studies for regulatory purposes. Clinical studies of the Company's products require that the Company identify and enroll a large number of patients with the medical condition under investigation. The Company may not be able to enroll a sufficient number of appropriate patients to complete the clinical studies in a timely manner. If the Company experiences difficulty in enrolling a sufficient number of patients to conduct the clinical studies, the Company may need to delay or terminate ongoing clinical studies and will not accomplish objectives material to the Company's success, which in turn could affect the price of the Common Shares. Delays in planned patient enrolment, or lower than anticipated event rates in the Company's current clinical studies or future clinical studies may result in increased costs, program delays, or both.

There can be no assurance that unacceptable toxicities or adverse side effects will not occur at any time in the course of pre-clinical studies or human clinical studies or during commercial use of the Company's products.

The appearance of any such toxicities or adverse side effects could interrupt, limit, delay, or cause the Company to abort the sale or development of any of the Company's products. Furthermore, there can be no assurance that disease resistance or other unforeseen factors will not limit the effectiveness of the Company's products or its proposed products. Any products resulting from the Company's programs that are not expected to be successfully developed or made commercially available in the near term may not be successfully developed or made commercially available at all.

### **Management of growth**

The commercial release of Periowave™ has placed and the expansion of the Company's target markets will place additional demands upon the Company's technical, sales and marketing and administrative resources. The Company is at a comparatively early stage of its development, and the ability of the Company to cope with these additional demands is uncertain. The failure of the Company to manage its growth appropriately will adversely affect the business, its financial condition and the future results of its operations.

### **Attraction and retention of key personnel**

The Company's future success depends on its continuing ability to attract and retain highly skilled and qualified personnel, particularly in relation to research and development, and also in relation to management, production, sales, marketing and technical support. If the Company cannot recruit suitably qualified personnel as required, its performance may be materially adversely affected.

The success of the Company and its future operating results is dependent, in part, on the performance and continued service of certain key management, technical, research, sales and marketing personnel. The loss of services of any or all of these key people may have a material adverse effect on the Company's business and prospects. There is no assurance that the Company can retain the services of such people, particularly since, as is common with biotechnology technicians, notice periods for termination of employment may be as short as 30 days.

### **Product liability and insurance**

The use of the Company's products or proposed products may affect patients in different ways. There is no assurance that the Company's products or proposed products will not lead to claims being made against the Company which are not covered by insurance, or that will lead to the Company being unable to obtain or maintain insurance. Insurance may be so expensive as to materially affect the profitability of the Company. Additionally, insurance may be so expensive as for management to deem it too prohibitive for the Company to be able to carry on its business. The Company may choose in certain circumstances, not to carry insurance. As a result, it may be in the position of having no protection against claims brought against it.

## Market growth

The biotechnology market is characterized by rapidly changing technology. Accordingly, it is difficult to predict the size of the market for the Company's technology or products. There can be no assurance that the Company's target markets within the industry will adopt the Company's technology for integration with their products and services, or that the Company will be successful in independently establishing a market for its technology or products.

## DIVIDENDS

The Company has not paid any dividends on its Common Shares since inception on September 9, 1996. The Company may pay dividends on its Common Shares in the future if it generates profits. Any decision to pay dividends on Common Shares in the future will be made by the Board of Directors on the basis of the earnings, financial requirements and other conditions existing at such time.

## DESCRIPTION OF CAPITAL STRUCTURE

The authorized share capital of the Company consists of an unlimited number of Common Shares without par value. As at March 24, 2009, there were 69,979,344 Common Shares issued and outstanding. The holders of the Common Shares are entitled to receive notice of and to attend and vote at all meetings of the shareholders of the Company and each Common Share confers the right to one vote in person or by proxy at all meetings of the shareholders of the Company. The holders of the Common Shares, subject to the prior rights, if any, of the holders of any other class of shares of the Company, are entitled to receive such dividends in any financial period as the board of directors of the Company may by resolution determine. In the event of the liquidation, dissolution or winding-up of the Company, whether voluntary or involuntary, the holders of the Common Shares are entitled to receive, subject to the prior rights, if any, of the holders of any other class of shares of the Company, the remaining property and assets of the Company.

The following table sets forth the share purchase warrants outstanding as at March 24, 2009.

Number of Warrants/Common Shares Issuable	Expiry Date	Exercise Price
3,167,591	December 7, 2009	\$1.25

The Company has a stock option plan pursuant to which the directors of the Company are authorized to grant options to directors, officers, employees and consultants of the Company and its subsidiaries for up to 9,201,376 common shares (being 13.1% of the issued and outstanding common shares as at March 24, 2009).

The following table sets forth the incentive stock options outstanding as at March 24, 2009.

Number of Options/Common Shares Issuable	Expiry Date	Exercise Price
1,666,668	March 29, 2009	\$0.25
183,335	April 1, 2009	\$0.25
50,000	April 2, 2009	\$1.05
65,000	October 6, 2009	\$2.00
50,000	February 21, 2010	\$2.60
160,000	August 15, 2010	\$1.70
65,000	February 13, 2011	\$1.62
75,000	March 10, 2011	\$1.90
130,000	May 18, 2011	\$1.85
192,000	December 6, 2011	\$1.28
293,000	November 15, 2012	\$1.21
1,825,000	March 28, 2013	\$1.00
430,000	June 13, 2013	\$0.90
1,565,000	February 4, 2014	\$0.10
<b>6,750,003</b>		

### MARKET FOR SECURITIES

#### Trading Price and Volume

The Common Shares traded during the year ended December 31, 2008 on both the TSX and AIM under the symbol "OBP". The following table provides a summary by month of the Company's trading history on the TSX during the year ended December 31, 2008 and from January 1, 2009 to March 24, 2009:

Month	High \$	Low \$	Volume
March 1 to 24, 2009	0.11	0.05	454,100
Feb 2009	0.11	0.075	75,100
Jan 2009	0.185	0.055	513,686
Dec 2008	0.075	0.03	899,300
Nov 2008	0.14	0.025	2,686,374
Oct 2008	0.35	0.08	795,425
Sep 2008	0.65	0.28	384,450
Aug 2008	0.79	0.61	420,290
Jul 2008	0.86	0.75	273,425
Jun 2008	0.95	0.75	223,433
May 2008	0.95	0.73	325,254
Apr 2008	1.00	0.77	427,881
Mar 2008	1.00	0.90	788,127
Feb 2008	0.95	0.65	1,348,288
Jan 2008	1.06	0.75	734,926

## DIRECTORS AND OFFICERS

### Name, Occupation and Security Holding

The name, province of residence, position or office held with the Company and principal occupation during the past five years of each person who is a director and executive officer of the Company as at December 31, 2008 and as the date of this AIF are described below:

Name and Address	Office or Position Held	Date of Appointment	Principal Occupation during past five years
Terry Holland <sup>(1,2,3)</sup> BC, Canada	Independent Director	April 2004	Jun/04 to present – President, Krystal Financial. Jul/98 to Jun/04 – President & CEO, Trimin Capital Corp.
Carolyn Cross <sup>(3)</sup> BC, Canada (On January 6, 2009 Ms. Cross was appointed Chairman of the Company and she resigned as President of the Company)	Chairman and CEO  President and CEO  Director	January 2009  February 2005  December 2004	Jan 09 to present- Chairman and CEO of the Company Feb/05 to Jan/09 – President and CEO of the Company Feb/98 to Jan/05 – President & CEO, Courthill Capital Inc.
Pierre Leduc <sup>(2,3)</sup> BC, Canada (On January 6, 2009, Mr. Leduc resigned from his positions with the Company)	Executive Chairman  Director	February 2005  December 2004	Feb/05 to January 6, 2009 – Executive Chairman of the Company Aug/04 to present- Principal, Leduc Associates Management Consultants Jul/01 to Jul/04 – President & CEO, Neurostream Technologies Inc.
Paolo Kalaw <sup>(1,2)</sup> BC, Canada	Independent Director	February 2005	Jan/07 to Present – Chairman, Frontier Dental Laboratories Inc. Jun/99 to Aug/06 – CEO, DTI Dental Tech Inc.
Colin Watt <sup>(1)</sup> BC, Canada	Independent Director	April 2003	Feb/97 to present – President, Squall Capital Corp.
Michael Crane York , Pennsylvania, USA	Director	May 2006	Oct/99 to Present – President, Michael R. Crane & Associates
Dr. Nicholas Loebel Washington State, USA	President and Chief Technology Officer	January 2009 March 2004	Jan/09 to present – President of the Company Apr/04 to present – CTO of the Company Sep/04 to present – President ORL; May/02 to Mar/03 – CTO, Ondine Biopharma Corporation (Delaware)
Thomas Dawson Washington State, USA	Chief Operating Officer	January 2009	Jan/09 to present - COO of the Company Dec/06 to present – Vice-President and COO of ORL Oct 05 to Dec/06 - VP Operations, DUX Area, Inc. Sept 00 to Aug 05 – President, Kistler-Morse Corporation

Name and Address	Office or Position Held	Date of Appointment	Principal Occupation during past five years
William Harper BC, Canada	Chief Financial Officer	August 2006	Aug/06 to present - Chief Financial Officer of the Company
	Vice-President Finance	July 2005	Jul/05 to present - Vice-President Finance
	Corporate Secretary	August 2005	Aug/05 to present - Corporate Secretary of the Company
			Mar/02 to 06/05 – Self employed financial consultant and accountant to public companies

- (1) Member of the audit committee
- (2) Member of the compensation committee
- (3) Member of the corporate governance committee

### Directors' Terms

At each annual general meeting of the Company all Directors shall retire and the shareholders shall elect a Board of Directors. A retiring Director shall be eligible for re-election.

### Control of Securities

The directors and executive officers of the Company, together with members of their immediate family, as a group beneficially owned or controlled or directed, directly or indirectly, an aggregate of 15,875,585 Common Shares as at March 24, 2008 representing approximately 22.69% of the issued and outstanding Common Shares. In addition, as at March 24, 2008 the directors and executive officers of the Company as a group held incentive stock options for the purchase of up to an aggregate of 2,638,334 Common Shares, which options are exercisable at between \$0.25 and \$2.60 per Common Share and expire between March 29, 2009 and March 28, 2013.

### Principal Occupation of Directors and Executive Officers

All of the directors and executive officers have as their principal occupation their position with the Company except as follows:

#### *Terry M. Holland – Independent Director*

Mr. Holland is a Chartered Accountant and has been the President of Krystal Financial Corp. since June 2004. Through Krystal Financial Corp., Mr. Holland provides ongoing strategic and financial consulting services to a number of public and private businesses.

#### *Colin Watt - Independent Director*

Mr. Watt is the President of Squall Capital Corp., a private Vancouver based company which specializes in financing, restructuring and providing management services to early stage public companies.

#### *Paolo Kalaw – Independent Director*

Mr. Kalaw is Chairman of Frontier Dental Laboratories, Inc., one of the leading cosmetic dentistry laboratories in the United States.

*Michael Crane – Director*

Mr. Crane is President of Michael R. Crane & Associates, LLC, a dental industry consulting firm, which he founded in 1999, that provides assistance to companies in the areas of divestiture and acquisitions, technology licensing, strategic alliances, global expansion and business planning.

**Conflicts of Interest**

Certain of the Company's directors and officers serve or may agree to serve as directors or officers of other reporting companies or have significant shareholdings in other companies which are active in the biotechnology field. The directors of the Company may in such instance have a conflict of interest. Under the laws of the Province of British Columbia, the directors of the Company are required to act honestly, in good faith and in the best interests of the Company.

**AUDIT COMMITTEE INFORMATION****Audit Committee Charter**

The Company's audit committee has a charter (the "Audit Committee Charter") in the form attached to this AIF as Schedule "A".

**Composition of the Audit Committee**

The following are the members of the Company's audit committee as at December 31, 2008:

Terry Holland (Chairperson)	Independent <sup>1</sup>	Financially literate <sup>1</sup>
Colin Watt	Independent <sup>1</sup>	Financially literate <sup>1</sup>
Paolo Kalaw	Independent <sup>1</sup>	Financially literate <sup>1</sup>

Notes:

1. As defined by MI 52-110.

**Relevant Education and Experience**

The following is a description of the education and experience of each audit committee member that is relevant to the performance of his or her responsibilities as an audit committee member:

*Terry M. Holland - Chairperson (Age 53)*

Terry Holland is the Chairman of the Audit Committee. He is a Chartered Accountant and has been the President of Krystal Financial Corp. since June 2004. Through Krystal Financial Corp., Terry Holland provides ongoing strategic and financial consulting services to a number of public and private businesses. Up to June 2004 he was the President and CEO of Trimin Capital Corp., a Vancouver based private equity firm. Over the last 22 years, Mr. Holland has had extensive experience in the acquisition and financing of businesses in a wide variety of sectors, including resource, real estate, manufacturing and technology. During this time, he has worked closely with senior management of these businesses, providing both financial and strategic support. Mr. Holland is an active member and past chairman of the British Columbia Chapter of the Young Presidents' Organization and is the Chairman of the Boys and Girls Clubs of Greater Vancouver Foundation. He also serves as a director of two public companies, Burntsand Inc. and Hardwoods Distribution Income Fund. Mr. Holland holds a Bachelor of Commerce degree from the University of British Columbia.

*Colin Watt - Director (Age 37)*

Mr. Watt is the President of Squall Capital Corp., a private Canadian based company which specializes in financing, restructuring and providing management services to early stage public companies. Mr. Watt is a director and officer of a number of early stage public companies in Canada. Mr. Watt holds a B.Comm. (Finance) from the University of British Columbia.

*Paolo Kalaw – Director (Age 41)*

Mr. Kalaw is Chairman and CEO of Frontier Dental Laboratories, Inc., one of the leading cosmetic dentistry laboratories in the United States. He is also CEO of the California Center for Advanced Dental Studies, an international organization focused on post graduate education in dentistry. Previous to this, Mr. Kalaw was Chief Executive Officer and co-founder of DTI Dental Technologies Inc., a company that, prior to its recent merger with BioHorizons Implant Systems, Inc., owned and operated 16 dental laboratories in Canada and the United States. Mr. Kalaw has a BSc. in Microbiology and was one of the 2005 finalists in Ernst and Young's Entrepreneur of the Year. He is also a member of the National Association of Dental Laboratories, the Young Presidents' Organization, and the American Academy of Cosmetic Dentistry.

**External Auditor Services Fees (By Category)**

The aggregate fees, including expenses, billed or billable by the Company's external auditors in connection with the year ended December 31, 2008 and 2007 are as follows:

<b>Period Ended</b>	<b>Audit Fees</b>	<b>Audit Related Fees</b>	<b>Tax Fees</b>	<b>All Other Fees</b>
Dec 31, 2008	\$129,340 <sup>(1)</sup>	\$11,150	-	-
Dec 31, 2007	\$130,567 <sup>(2)</sup>	\$3,903	-	-

## Notes:

1. Includes charges of \$54,635 for reviews of the Company's unaudited interim financial statements issued during the year.
2. Includes charges of \$51,401 for reviews of the Company's unaudited interim financial statements issued during the year.

**LEGAL PROCEEDINGS AND REGULATORY ACTIONS**

The Company is not a party to any legal proceedings and is not aware of any such proceedings known to be contemplated. In the Company's most recently completed financial year no penalties or sanctions were imposed on the Company by a court or by a securities regulatory authority relating to securities legislation or to other legislation and the Company did not enter into any settlement agreements with those parties relating to securities legislation.

### **INTEREST OF MANAGEMENT AND OTHERS IN MATERIAL TRANSACTIONS**

No director, senior officer or principal shareholder of the Company, or any associate or affiliate of the foregoing, has had any material interest, direct or indirect, in any transaction within the three most recently completed financial years or during the current financial year prior to March 24, 2009 that has materially affected or is reasonably expected to materially affect the Company, except as described below:

1. On March 13, 2006, Carolyn Cross, currently the Company's Chairman and Chief Executive Officer, purchased 800,000 Common Shares for \$320,000 on exercise of share purchase warrants exercisable at \$0.40 per share that were to expire on March 31, 2006.
2. In connection with a non-brokered private placement that closed in two tranches during February 2009, Carolyn Cross purchased an aggregate of 1,852,334 Common Shares for \$111,140 (\$0.06 per share).

### **TRANSFER AGENTS AND REGISTRARS**

The Company's transfer agent and registrar is Computershare Trust Company of Canada, which has offices in Vancouver, British Columbia; Toronto, Ontario; and in other cities across Canada.

### **MATERIAL CONTRACTS**

There are no material contracts of the Company that were entered into by the Company within the most recently completed financial year or were entered into before the most recently completed financial year and after January 1, 2002 and which are still in effect, other than contracts entered into in the ordinary course of business that are not otherwise required to be filed on SEDAR.

### **EXPERTS**

Ernst & Young LLP ("E&Y") at 700 West Georgia Street, 23<sup>rd</sup> Floor, Vancouver, British Columbia, V7Y 1C7, are the independent auditors for the Company. E&Y audited the consolidated financial statements of the Company for the years ended December 31, 2007 and 2008 and their report on those financial statements has been filed on SEDAR.

E&Y are independent of the Company in accordance with the auditors' rules of professional conduct of the Institute of Chartered Accountants of British Columbia.

### **ADDITIONAL INFORMATION**

Additional information relating to the Company may be found on SEDAR at [www.sedar.com](http://www.sedar.com).

Additional information, including directors' and officers' remuneration and indebtedness, principal holders of the Company's securities, and securities authorized for issuance under equity compensation plans, where applicable, is contained in the Company's Information Circular for its most recent annual general meeting of securityholders that involved the election of directors.

Additional financial information is provided in the Company's consolidated financial statements and management's discussion and analysis for the year ended December 31, 2008.

**SCHEDULE “A”**  
**AUDIT COMMITTEE CHARTER**

**OF**

**ONDINE BIOPHARMA CORPORATION**  
**(the “Company”)**

**Dated**

**July 20, 2004 (as amended on May 11, 2006)**

**Committee’s Purpose and Mandate**

*Mandate and organization*

This charter governs the operations of the Audit Committee of the Company. The Board of Directors shall appoint an Audit Committee (the “Committee”) of at least three members, all of which must be independent directors, and shall designate one member as a chairperson or delegate the authority to designate a chairperson to the Committee. For the purposes hereof, members shall be considered independent as long as they satisfy the independence requirements for Board Members as set forth in Multilateral Instrument 52-110 – “*Audit Committees*”. Each member of the Committee shall be financially literate, or become financially literate within a reasonable period of time. For the purposes of this section, a director shall be deemed to be “financially literate” if he or she has the ability to read and understand a set of financial statements that present a breadth and level of complexity of accounting issues that are generally comparable to the breadth and complexity of the issues that can reasonably be expected to be raised by the Company’s financial statements.

The Committee shall meet at least quarterly. The Committee shall meet separately and periodically with management and the external auditor. The Committee shall report regularly to the Board of Directors with respect to its activities.

*Purpose*

The purpose of the Committee shall be to:

- Provide assistance to the Board of Directors in fulfilling their oversight responsibility to the shareholders, potential shareholders, the investment community, and others relating to: (i) the integrity of the Company’s financial statements; (ii) the Company’s compliance with legal and regulatory requirements; (iii) the external auditor’s qualifications and independence; (iv) and the performance of the Company’s external auditor;

In fulfilling its purpose, it is the responsibility of the Committee to maintain free and open communication between the Committee, external auditor and management of the Company, and to determine that all parties are aware of their responsibilities.

### ***Authority of the Audit Committee***

The Committee has the authority to: (i) engage independent counsel and other advisors as it determines necessary to carry out its duties; (ii) set and pay the compensation for any advisors employed by the Committee; and, (iii) communicate directly with the internal and external auditors of the Company.

### ***Duties and Responsibilities***

The Committee has the responsibilities and powers set forth in this Charter. Management is responsible for the preparation, presentation, and integrity of the Company's financial statements, for the appropriateness of the accounting principles and reporting policies that are used by the Company and for implementing and maintaining internal control over financial reporting. The external auditor is responsible for auditing the Company's financial statements and for reviewing the Company's unaudited interim financial statements.

The Committee, in carrying out its responsibilities, believes its policies and procedures should remain flexible, in order to best react to changing conditions and circumstances. The Committee will take appropriate actions to set the overall corporate "tone" for quality financial reporting, sound business risk practices, and ethical behavior.

The following shall be the principal duties and responsibilities of the Committee. These are set forth as a guide with the understanding that the Committee may supplement them as appropriate.

- The Committee shall recommend to the Board of Directors: (i) the external auditor to be nominated for the purpose of preparing or issuing an auditor's report or performing other audit, review or attest services for the Company; and, (ii) the compensation of the external auditor.
- The Committee shall be directly responsible for overseeing the work of the external auditor engaged for the purpose of preparing or issuing an auditor's report or performing other audit, review, or attest services for the Company, including the resolution of disagreements between management and the external auditor regarding financial reporting. The external auditor shall report directly to the Committee.
- At least annually, the Committee shall obtain and review a report by the external auditor describing: (i) the firm's internal quality control procedure; (ii) any material issues raised by the most recent internal quality control review, or peer review, of the firm, or by any inquiry or investigation by governmental or professional authorities, within the preceding five years, respecting one or more independent audits carried out by the firm, and any steps taken to deal with any such issues; and (iii) all relationships between the external auditor and the Company (to assess the auditors' independence).
- After reviewing the foregoing report and the external auditor's work throughout the year, the Committee shall evaluate the auditors' qualifications, performance and independence. Such evaluation should include the review and evaluation of the lead partner of the external auditor and take into account the opinions of management.

- The Committee shall determine that the external auditor has a process in place to address the rotation of the lead audit partner and other audit partners serving the account as required under the independence rules.
- The Committee shall pre-approve all audit and non-audit services provided by the external auditor to the Company or its subsidiaries and shall not engage the external auditor to perform non-audit services proscribed by law or regulation. The Committee may delegate pre-approval authority to a member of the Audit Committee. The decisions of any Committee member to whom pre-approval authority is delegated must be presented to the full Committee at its next scheduled meeting.
- The Committee shall discuss with the external auditor the overall scope and plans for their respective audits, including the adequacy of staffing and budget or compensation.
- The Committee shall regularly review with the external auditor any audit problems or difficulties encountered during the course of the audit work, including any restrictions on the scope of the external auditor's activities or access to requested information, and management's response. The Committee should review any accounting adjustments that were noted or proposed by the external auditor but were "passed" (as immaterial or otherwise); any communications between the audit team and the external auditor's national office relating to problems or difficulties encountered with respect to significant auditing or accounting issues; and any "management" or "internal control" letter issued, or proposed to be issued, by the external auditor to the Company.
- The Committee shall review and discuss the Company's quarterly financial statements, including Management's Discussion and Analysis of Financial Condition and Results of Operations, with management and the external auditor prior to the filing of the Company's Quarterly Report. Also, the Committee shall discuss the results of the quarterly review and any other matters required to be communicated to the Committee by the external auditor under generally accepted auditing standards.
- The Committee shall review and discuss the annual audited financial statements, including Management's Discussion and Analysis of Financial Condition and Results of Operations, with management and the external auditor prior to the filing of the Company's Annual Report and Annual Information Form. The Committee's review of the financial statements shall include: (i) major issues regarding accounting principles and financial statement presentations, including any significant changes in the company's selection or application of accounting principles, and major issues as to the adequacy of the company's internal controls and any specific remedial actions adopted in light of material control deficiencies (ii) discussions with management and the external auditor regarding significant financial reporting issues and judgments made in connection with the preparation of the financial statements and the reasonableness of those judgments; (iii) consideration of the effect of regulatory accounting initiatives, as well as off-balance sheet structures on the financial statements; (iv) consideration of the judgment of both management and the external auditor about the quality, not just the acceptability of accounting principles; and (v) the clarity of the disclosures in the financial statements. Also, the Committee shall discuss the results of the annual audit and any other matters required to be communicated to the Committee by the external auditor under professional standards.

- The Committee shall receive and review a report from the external auditor, prior to the filing of the Company's Annual Report, on all critical accounting policies and practices of the Company; all material alternative treatments of financial information within generally accepted accounting principles that have been discussed with management, including the ramifications of the use of such alternative treatments and disclosures and the treatment preferred by the external auditor; and other material written communications between the external auditor and management.
- The Committee shall review and approve all related party transactions.
- The Committee shall review and discuss with management the Company's financial statements, Management Discussion and Analysis and annual and interim earnings press releases before the Company publicly discloses this information
- The Committee shall review financial information and earnings guidance provided to analysts and rating agencies.
- The Committee shall review management's assessment of the effectiveness of internal control over financial reporting as of the end of the most recent fiscal year.
- The Committee shall assess, annually or periodically, as appropriate, the adequacy of procedures in place for reviewing all public disclosure documents of the Company containing audited or unaudited financial information.
- The Committee shall discuss with management and the external auditor the adequacy and effectiveness of internal control over financial reporting, including any significant deficiencies or material weaknesses identified by management of the Company in connection with its required quarterly certifications, as applicable. In addition, the Committee shall discuss with management and the external auditor any significant changes in internal control over financial reporting that are disclosed, or considered for disclosures, in the Company's periodic filings.
- The Committee shall review the Company's compliance systems with respect to legal and regulatory requirements and review the Company's code of conduct and programs to monitor compliance with such programs. The Committee shall receive corporate attorneys' reports of evidence of a material violation of securities laws or breaches of fiduciary duty.
- The Committee shall discuss the Company's policies with respect to risk assessment and risk management, including the risk of fraud. The Committee also shall discuss the Company's major financial risk exposures and the steps management has taken to monitor and control such exposures.
- The Committee shall review and approve the Company's hiring policies regarding partners, employees, and former partners and employees of the present and former external auditors of the Company.
- The Committee shall establish and periodically review procedures for: (i) the receipt, retention and treatment of complaints received by the Company regarding accounting, internal accounting controls, or auditing matters; and, (ii) the confidential, anonymous submission by employees of the Company of concerns regarding questionable accounting or auditing matters.

- The Committee shall determine the appropriate funding needed by the Committee for payment of: (1) compensation to the external auditor engaged for the purpose of preparing or issuing an audit report or performing other audit, review, or attest services for the Company; (2) compensation to any advisers employed by the Committee; and (3) ordinary administrative expenses of the Committee that are necessary or appropriate in carrying out its duties.
- The Committee shall perform an evaluation of its performance at least annually to determine whether it is functioning effectively.

The Committee shall review and reassess the charter at least annually and obtain the approval of the board of directors.