
UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D. C. 20549
FORM 10-K

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

For the Fiscal Year Ended March 31, 2019

Commission File Number 0-14602

CYANOTECH CORPORATION

(Exact name of registrant as specified in its charter)

Nevada
(State or other jurisdiction of incorporation or organization)

91-1206026
(I. R. S. Employer Identification No.)

73-4460 Queen Kaahumanu Highway, Suite 102,
Kailua-Kona, Hawaii
(Address of principal executive offices)

96740
(Zip Code)

Registrant's telephone number, including area code: **(808) 326-1353**

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

Name of each exchange on which registered:
NASDAQ Capital Market

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

Common Stock, \$0.02 par value
(Title of Class)

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. ☐ Yes ☒ No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. ☐ Yes ☒ No

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

Indicate by checkmark whether the registrant has submitted electronically, every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§229.405 of this chapter) during the preceding 12 months (or such shorter period that the registrant was required to submit such files). ☒ Yes ☐ No

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

Large accelerated filer	<input type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input checked="" type="checkbox"/>
		Emerging growth company	<input type="checkbox"/>

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

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

The aggregate market value of the Registrant's Common Stock held by non-affiliates of the Registrant on September 30, 2018 was approximately \$10,163,739 based on the closing sale price of the Common Stock on the NASDAQ Capital Market on that date.

Number of shares outstanding of Registrant's Common Stock at June 17, 2019 was 5,889,582.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Registrant's Definitive Proxy Statement for its 2019 Annual Meeting of Stockholders, expected to be filed with the Securities and Exchange Commission on or prior to July 12, 2019 and to be used in connection with the Annual Meeting of Stockholders expected to be held on August 22, 2019, are incorporated by reference in Part III of this Form 10-K.

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CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Report and other presentations made by Cyanotech Corporation (“CYAN”) and its subsidiary contain “forward-looking statements,” which include statements that are predictive in nature, depend upon or refer to future events or conditions, and usually include words such as “expects,” “anticipates,” “intends,” “plan,” “believes,” “predicts,” “estimates” or similar expressions. In addition, any statement concerning future financial performance, ongoing business strategies or prospects and possible future actions are also forward-looking statements. Forward-looking statements are based upon current expectations and projections about future events and are subject to risks, uncertainties and the accuracy of assumptions concerning CYAN and its subsidiary (collectively, the “Company”), the performance of the industry in which CYAN does business, and economic and market factors, among other things. **These forward-looking statements are not guarantees of future performance. You should not place undue reliance on forward-looking statements.**

Forward-looking statements speak only as of the date of the Report, presentation or filing in which they are made. Except to the extent required by the Federal Securities Laws, we undertake no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise. Our forward-looking statements in this Report include, but are not limited to:

- Statements relating to our business strategy;
- Statements relating to our business objectives; and
- Expectations concerning future operations, profitability, liquidity and financial resources.

These forward-looking statements are subject to risk, uncertainties and assumptions about us and our operations that are subject to change based on various important factors, some of which are beyond our control. The following factors, among others, could cause our financial performance to differ significantly from the goals, plans, objectives, intentions and expectations expressed in our forward-looking statements:

- Environmental restrictions, soil and water conditions, levels of sunlight and seasonal weather patterns, particularly heavy rain, wind and other hazards;
 - Consumer perception of our products due to adverse scientific research or findings, publicity regarding nutritional supplements, litigation, regulatory investigations or other events, conditions and circumstances involving the Company which receive national media coverage;
 - Effects of competition, including tactics and locations of competitors and operating and market competition;
 - Demand for our products, the quantities and qualities thereof available for sale and levels of customer satisfaction, including significant unforeseen fluctuations in global demand for products similar to our products;
 - Changes in purchasing practices among our customers, particularly our two largest customers;
 - Our dependence on the experience, continuity and competence of our executive officers and other key employees;
 - The added risks associated with or attributed to the current local, national and world economic conditions, including but not limited to, the volatility of crude oil prices, inflation and currency fluctuations;
 - Changes in domestic and/or foreign laws, regulations or standards, affecting nutraceutical products or our methods of operation;
 - Access to available and reasonable financing on a timely basis;
 - The availability of financing on acceptable terms to provide operating capital in the event of an unexpected cash shortfall;
 - The Company’s inability to generate enough revenues to meet its obligations or repay maturing indebtedness;
 - Failure of capital projects to operate as expected or meet expected results;
 - Changes in laws, corporate governance requirements and tax rates, regulations, accounting standards and the application to us or the nutritional products industry of new decisions by courts, regulators or other government authorities;
 - Legal costs associated with any legal proceedings, and the potential direct and indirect cost and other effects on our business or financial condition resulting from any legal proceedings
 - Risk associated with the geographic concentration of our business;
 - Acts of war, terrorist incidents or natural disasters; and
 - Other risks or uncertainties described elsewhere in this Report and in other periodic reports previously and subsequently filed by us with the Securities and Exchange Commission.
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PART I

Item 1. Business

Unless otherwise indicated, all references in this report to the “Company”, “we”, “us”, “our”, and “Cyanotech” refer to Cyanotech Corporation and its wholly owned subsidiary, Nutrex Hawaii, Inc. (“Nutrex Hawaii” or “Nutrex”), a Hawaii corporation.

General

We are a world leader in the production of high value natural products derived from microalgae. Incorporated in 1983, we are guided by the principle of providing beneficial, quality microalgal products for health and human nutrition in a sustainable, reliable and environmentally sensitive operation. We are GMP (Good Manufacturing Practices) certified by the Natural Products Association™, reinforcing our commitment to quality in our products, quality in our relationships (with our customers, suppliers, employees and the communities we live in), and quality of the environment in which we work. Our products include:

- Hawaiian *BioAstin*® natural astaxanthin - a powerful dietary antioxidant shown to support and maintain the body’s natural inflammatory response, to enhance skin, and to support eye and joint health. It has expanding applications as a human nutraceutical and functional food ingredient; and
- Hawaiian *Spirulina Pacifica*® - a nutrient-rich dietary supplement used for extra energy, a strengthened immune system, cardiovascular benefits and as a source of antioxidant carotenoids

Microalgae are a diverse group of microscopic plants that have a wide range of physiological and biochemical characteristics and contain, among other things, high levels of natural protein, amino acids, vitamins, pigments and enzymes. Microalgae have the following properties that make commercial production attractive: (1) microalgae grow much faster than land grown plants, often up to 100 times faster; (2) microalgae have uniform cell structures with no bark, stems, branches or leaves, permitting easier extraction of products and higher utilization of the microalgae cells; and (3) the cellular uniformity of microalgae makes it practical to control the growing environment in order to optimize a particular cell characteristic. Efficient and effective cultivation of microalgae requires consistent light, warm temperatures, low rainfall and proper chemical balance in a very nutrient-rich environment, free of environmental contaminants and unwanted organisms. This is a challenge that has motivated us to design, develop and implement proprietary production and harvesting technologies, systems and processes in order to commercially produce human nutritional products derived from microalgae.

Our production of these products at the 96-acre facility on the Kona Coast of the island of Hawaii provides several benefits. We selected the Keahole Point location in order to take advantage of relatively consistent warm temperatures, sunshine and low levels of rainfall needed for optimal cultivation of microalgae. This location also offers us access to cold deep ocean water, drawn from an offshore depth of 2,000 feet, which we use in our *Ocean-Chill Drying* system to eliminate the oxidative damage caused by standard drying techniques and as a source of trace nutrients for microalgal cultures. The area is also designated a Biosecure Zone, with tight control of organisms allowed into the area and free of genetically modified organisms (GMO’s). In November 2018, we acquired the former Cellana Demonstration Facility adjacent to the northern border of our existing 90 acres. This six-acre pilot production and research facility will provide us with upgraded and expanded lab space that will facilitate our research and development efforts. We believe that our technology, systems, processes and favorable growing location generally permit year-round harvest of our microalgal products in a cost-effective manner.

Our Business

We operate entirely in one operating segment, the cultivation and production of microalgae into high-value, high-quality natural health and nutrition products. We cultivate, on a large-scale basis, two microalgal species from which our two major product lines, natural astaxanthin products and spirulina products, are derived. We record revenue and cost of sales information by product category, but do not record operating expenses by such product category.

The following table sets forth, for the three years ended March 31, 2019, the net sales contributed by each of our major product lines and extraction services (in thousands):

	Net Sales		
	2019	2018	2017
Natural astaxanthin products:			
<i>BioAstin</i> ®	\$ 19,758	\$ 21,650	\$ 19,357
Spirulina products:			
<i>Spirulina Pacifica</i> ®	10,207	12,465	12,685
Contract extraction services	237	—	—
Total	<u>\$ 30,202</u>	<u>\$ 34,115</u>	<u>\$ 32,042</u>

Natural Astaxanthin Products

We commenced commercial production of natural astaxanthin in 1997 and in 1999 introduced *BioAstin*®, our natural astaxanthin product for the human health and nutrition market. *BioAstin*® represents approximately 65% of our net sales in the fiscal year ended March 31, 2019. Astaxanthin's antioxidant properties are believed to surpass many of the antioxidant properties of vitamin C, vitamin E, beta-carotene and other carotenoids. Independent scientific studies indicate that in certain models, natural astaxanthin has up to 550 times the antioxidant activity of vitamin E and 10 times the antioxidant activity of beta-carotene. In addition, a growing body of scientific literature suggests that natural astaxanthin has beneficial properties as an anti-inflammatory, with additional benefits for joint, skin and eye health.

BioAstin® is GRAS (generally recognized as safe) as determined by the United States Food and Drug Administration. Our all natural *BioAstin*® is cultivated without the use of herbicides or pesticides and is not genetically modified (non-GMO). In fiscal 2012, we applied for a new dietary ingredient (NDI), with the United States Food and Drug Administration, providing for a daily dosage of 12mg of astaxanthin which was reviewed without comment.

We produce natural astaxanthin from *Haematococcus pluvialis* microalgae grown in fresh water supplemented with nutrients. As these algae are extremely susceptible to contamination by unwanted algae, protozoa and amoebae, we developed a proprietary system known as the *PhytoDome Closed Culture System* or *PhytoDome CCS* to overcome this problem. Using these large-scale photobioreactors, we have generally been able to grow consistently large volumes of contaminant-free *Haematococcus* culture, subject to quarterly seasonality.

For the final stage of cultivation, the *Haematococcus* algae is transferred to open ponds where an environmental stress is applied causing the algae to form spores which accumulate high levels of astaxanthin. The astaxanthin crop in each pond is circulated by paddlewheels to keep an even blend of nutrients in suspension and a uniform exposure of the algae to sunlight, which is a major component of cultivation. Once ready for harvest, the media containing these spores is transported through underground pipes to our astaxanthin processing building where the culture media and algal spores are separated. Unlike spirulina, astaxanthin is produced in a batch-mode and each cultivation pond must be completely drained and thoroughly cleaned between cycles.

The harvested algal spores are dried to flakes or a fine powder. During processing, the spores are cracked in a proprietary system to assure efficient extraction of astaxanthin. Natural astaxanthin is processed further utilizing a high-pressure supercritical carbon dioxide extraction process at our facility in Kona. The resulting product is a water insoluble lipid extract used in the production of gelcaps.

All natural astaxanthin products undergo a prescribed set of microbiological food product tests to ensure safety and quality. We use third party contract manufacturers for the encapsulation and packaging of gelcaps. All third-party contract manufacturers are audit inspected by our Quality Department and are required to comply with the Food and Drug Administration (FDA) Good Manufacturing Practices (GMP) regulations. These contract manufacturers hold independent third party GMP certifications.

BioAstin® is sold primarily as a packaged consumer product through Nutrex Hawaii to natural product distributors, retailers and online channels, or directly to consumers. It is also sold in liquid lipid form as a raw ingredient to dietary supplement manufacturers, health food formulators and cosmetic manufacturers. *BioAstin*® gelcaps are sold in bulk quantities to international distributors. In 2007, we also introduced a line of *BioAstin*® based nutritional supplements, *MDFormulas*. *MDFormulas* combined the health benefits of *BioAstin*® with other proven nutrients with benefits for targeted applications such as skin, heart and joint health. In 2012, we began selling our 12 milligram *BioAstin*® consumer product and in fiscal 2016 we introduced vegetarian formulas of both 4 and 12 milligram consumer products.

BioAstin® competes directly with similar products marketed by other manufacturers including Fuji Chemical of Japan, Algatechnologies of Israel and BGG of China. In the general category of nutritional supplements, *BioAstin*® and *MDFormulas* also compete with a variety of vitamins, dietary supplements and other antioxidant products available to consumers. The nutritional products market is highly competitive and includes international, national, regional and local producers and distributors, many of whom have greater resources than we have, and many of whom offer a greater variety of products.

The potential benefits of astaxanthin to human health are continuing to emerge. As one of the most potent and bioactive biological antioxidants found in nature, the number of potential roles of natural astaxanthin for human health is growing. Much research has been published in recent years on the beneficial roles of antioxidants in our health, in the aging process and on specific health conditions. The full efficacy of *BioAstin*® as a human nutraceutical supplement requires further significant clinical study. Independent antioxidant research and prior clinical trials show promising human applications. We hold three United States patents relating to the usage of *BioAstin*® in the treatment of Carpal Tunnel Syndrome, the treatment of canker/cold sores and for its use as a topical and oral sunscreen.

Spirulina Products

We have been producing a strain of spirulina microalgae marketed as Hawaiian *Spirulina Pacifica*® since 1984. *Spirulina Pacifica*® represents approximately 34% of our net sales in the fiscal year ended March 31, 2019. *Spirulina Pacifica*® provides a plant-based, highly absorbable source of protein, natural beta-carotene, mixed carotenoids, B vitamins, gamma linolenic acid, essential amino acids and other phytonutrients.

Spirulina Pacifica® is produced in two forms: powder and tablets. Powder is used as an ingredient in nutritional supplements and health beverages; tablets are consumed as a daily dietary supplement. Both forms are sold as raw material ingredients in bulk quantities, as packaged consumer products under the Nutrex Hawaii label and as private label consumer packaged products.

Spirulina Pacifica® is GRAS (generally recognized as safe) for addition to a variety of foods as determined by the United States Food and Drug Administration. Our all natural *Spirulina Pacifica*® is cultivated without the use of herbicides or pesticides, is not genetically modified (non-GMO) and is certified Kosher by Organized Kashrus Laboratories of Brooklyn, New York and certified Halal by the Islamic Food and Nutrition Council of America.

Our *Spirulina Pacifica*® is cultivated in a combination of fresh water and a metered amount of nutrient-rich deep ocean water (containing essential trace elements), drawn from a depth of 2,000 feet below sea level. This water mixture is supplemented with other major required nutrients. We recycle fresh water in our spirulina production process where possible and continue to explore further recycling opportunities.

The spirulina crop in each pond is circulated by paddlewheels to keep an even blend of nutrients in suspension and a uniform exposure of the algae to sunlight, which is a major component of cultivation. Our ponds are engineered to maintain the right media depth for sunlight to permeate each crop completely, facilitating rapid growth. The design of our cultivation ponds promotes efficient growing conditions, allowing the *Spirulina Pacifica*® algae to reproduce rapidly. Each pond can be harvested, on average, in six days.

Once ready for harvest, a majority of the spirulina algae are pumped from a pond to our processing building where the crop is separated from the culture media. The culture remaining in the ponds serves as an inoculum for the next growth cycle. Harvested spirulina is washed with fresh water and filtered before moving to the drying stage. Culture media separated from spirulina algae during processing are conserved and recycled. Our *Integrated Culture Biology Management* (“ICBM”) technology for microalgae cultivation has proven to be a reliable and stable operating environment, allowing us to grow and harvest spirulina without significant contamination by unwanted microorganisms and without associated loss of productivity.

Spirulina Pacifica® powder is dried via our low-oxygen *Ocean-Chill Drying* process, thereby preserving high levels of antioxidant carotenoids and other nutrients sensitive to heat and oxygen. The rapid drying process results in a dark green powder. Spirulina powder is generally difficult to form into tablets, and most tablet manufacturers either add high amounts (from 10% to 30%) of inert substances to “glue” the tablet together or use a heat granulation process that destroys nutrients. In contrast, our *Spirulina Pacifica*® tablets contain a maximum of 2% of such substances and are produced in cold press compression tablet-making machines.

Each production lot of *Spirulina Pacifica*® is sampled and subjected to thorough quality control analyses including testing for moisture, carotenoids, minerals, color and taste, among others. Further, each lot of our *Spirulina Pacifica*® undergoes a prescribed set of microbiological food product tests, including total aerobic bacteria, coliform bacteria and E. coli. The *Spirulina Pacifica*® powder and tablets are packaged to extend shelf life and ensure product freshness. Our packaged consumer products are bottled and labeled by third party contractors in California. These contractors are subject to regular government inspections and hold Drug Manufacturing Licenses & Processed Food Registrations with the State of California Department of Health. These contract manufacturers hold independent third party GMP certifications.

The majority of our bulk spirulina is sold to international health food manufacturers and formulators, many of whom identify and promote our Hawaiian *Spirulina Pacifica*® in their products. Such customers purchase bulk powder or bulk tablets and package these products under their brand label for sale to the health and natural food markets in their countries. Some of the brands produced by these customers are marketed and sold in direct competition with the packaged consumer products sold through our Nutrex Hawaii subsidiary in international channels. In the domestic market, Nutrex Hawaii packaged consumer products are sold through natural product distributors, retailers and online channels, or directly to consumers. In selected international markets, we have exclusive sales distributors for both our bulk and packaged consumer products.

Our *Spirulina Pacifica*® products compete with a variety of vitamins, dietary supplements, other algal products and similar nutritional products available to consumers. The nutritional products category is highly competitive and includes international, national, regional and local producers and distributors, many of whom have greater resources than Cyanotech and many of whom offer a greater variety of products.

Our direct competition in the spirulina market is currently from Dainippon Ink and Chemical Company's Earthrise facility in California, Parry Nutraceuticals, a division of Murugappa Group of India and several farms in China.

In addition, there are numerous other smaller farms throughout the world. As one of the largest producers of spirulina, and the only producer of Hawaiian spirulina, our challenge is to increase our market share among customers who seek the high-quality products we produce while concurrently adjusting our product mix to meet our revenue and profitability targets.

Contract Extraction Services

As a result of capacity improvements that we made to our best-in-class, 1,000 bar, supercritical carbon dioxide extraction system, we began offering contract extraction services to third-party producers of astaxanthin biomass in fiscal 2019.

Major Customers

Two customers accounted for 33% and 24%, respectively, of our total net sales in the fiscal year ended March 31, 2019. Two customers accounted for 32% and 15%, respectively, of our total net sales in the fiscal year ended March 31, 2018. One customer accounted for 24% of our total net sales in the fiscal year ended March 31, 2017.

Research and Development

Our expertise for many years has been in the development of efficient, stable and cost-effective production systems for microalgal products. We have learned production levels from our systems may not be sustainable across periods of days, weeks, or even months. Accordingly, we typically investigate each specific microalgae identified in the scientific literature for potentially marketable products and for solutions to production stability and efficiency challenges, and then strive to develop the technology to grow such microalgae on a commercial scale or to incorporate procedures or technology to improve production stability and efficiency. Successful microalgal product developments and technical solutions are highly uncertain and dependent on numerous factors, many beyond our control. Products and solutions or improvements that appear promising in early phases of development may be found to be ineffective, may be uneconomical because of manufacturing costs or other factors, may be precluded from commercialization due to the proprietary rights of other companies, or may fail to receive necessary regulatory approvals. Our research and development expenses were \$0.9 million, \$0.6 million and \$0.6 million for the years ended March 31, 2019, 2018 and 2017, respectively. We plan to use the newly acquired facilities at the Cellana Demonstration Facility to improve and expand our research and development capabilities.

Patents, Trademarks and Licenses

We have been granted four United States patents: one on aspects of our production methods and three relating to usage of our *BioAstin*® products.

Our production method patent is directed to microalgae production technology, which expired in April 2016. Our patents relating to usage of our *BioAstin*® products are three utility patents on the use of astaxanthin, which will expire in December 2019, February 2020 and April 2020.

Although we view our proprietary rights as important, we currently believe that a loss of patent rights is not likely to have a material adverse effect on our present business as a whole. Instead, our commercial results mainly depend upon our trade secrets, know-how, other non-patent proprietary rights, customer relationships, our climate and our location. As a result, we feel that our competitors in the U.S. would not be able to implement competing technology covered by our patents now, after their expirations or otherwise, without our same combination of non-patented attributes.

We have registered trademarks in the U.S. and in some foreign markets, such as the European Union. Our operations are not dependent upon any single trademark, although some trademarks are identified with a number of our products and are important in the sale and marketing of such products.

Regulations

Several governmental agencies regulate various aspects of our business and our products in the United States, including the Food and Drug Administration, the Federal Trade Commission, the Consumer Product Safety Commission, the State of Hawaii Department of Health, the Department of Agriculture, the Environmental Protection Agency, the United States Postal Service, state attorney general offices and various agencies of the states and localities in which our products are sold. We believe we are in compliance with all material government regulations which apply to our products and operations. However, we are not able to predict the nature of any future laws, regulations, interpretations or applications, nor can we predict what effect future changes would have on our business.

Our international customers are subject to similar governmental agency regulations in their various geographic regions. Compliance by our customers with such local regulations is beyond our control and we cannot predict their ability to maintain such compliance. However, we strive to assist our customers in meeting local regulations pertaining to the use and sale of our products whenever possible.

Environmental Matters

In 2002, we were issued under the Endangered Species Act (“ESA”) an Incidental Take Permit (“ITP”) by the United States Department of Interior Fish and Wildlife Service (“FWS”). The ESA defines “incidental take” as “incidental to, and not for the purpose of, the carrying out of an otherwise lawful activity.” This permit authorizes incidental take of the endangered Hawaiian stilt (*Himantopus mexicanus knudseni*) that is anticipated to occur as a result of ongoing operations and maintenance at our Kona facility. As a mandatory component for the issuance of such permit, we submitted and maintain a Habitat Conservation Plan (“HCP”) to ensure that the effects of the permitted action on listed species are adequately minimized and mitigated.

The HCP called for the creation of a nesting and breeding ground for the Hawaiian stilt to offset any take activity. We have complied with these requirements since 2002. The breeding program was so successful that the increase in the Hawaiian stilt population in the area became a potential hazard for the adjacent State airport facility. We disassembled the stilt habitat and are mitigating “take” by using standard non-lethal hazing devices to discourage nesting and breeding.

A requirement of the ITP is to provide insurance coverage for funding the project for the term of the ITP. Our insurance broker was unable to locate an underwriter who would provide such a bond. As permitted by law, the FWS waived this requirement recognizing that this HCP did not involve a significant capital expenditure. However, under Hawaii state law, no waiver provision is available. A new ITP was issued by the US Department of the Interior effective June 1, 2019; the permit expires June 1, 2035.

On March 14, 2016, the Company submitted an application for “Amendment and Extension to Cyanotech Corporation’s Habitat Conservation Plan and Incidental Take Permit” to FWS and DOFAW. The term of the requested extension is 19 years ending in 2035. The application was reviewed by the Federal and State Agencies and was conditionally granted at a meeting of the State of Hawaii Endangered Species Recovery Committee (ESRC) on June 13, 2016. The condition was that the Company reach an agreement with a specified property owner for offsite predator mitigation by June 2017. The Company was unable to reach an agreement with the specified property owner. At its June 13, 2017 meeting, the ESRC asked that detailed options for offsite mitigation be presented to them within six months. We are continuing to work with FWS and DOFAW to develop details of offsite predator mitigation to comply with ESRC requests and are considered to be in compliance as the negotiations proceed. While we do not anticipate any significant problems because we have satisfied all conditions of past HCP’s/ITP’s and our operation is considered by the State of Hawaii as “low effect”, there can be no guarantees that FWS and/or DOFAW will not impose additional requirements on us in connection with offsite predator mitigation which may impose additional costs on us.

Employees

As of March 31, 2019, we employed 109 people on a full-time basis. Of the total, 53 are involved in harvesting, production and quality, with the remainder in maintenance, shipping, sales, administration and support. None of our employees are subject to collective bargaining agreements. Management believes that its relations with employees are good.

Company Website and SEC Filings

Our corporate website is www.cyanotech.com. There we make available copies of Cyanotech documents, news releases and our filings with the Securities Exchange Commission, or the “SEC”, including financial statements. Also included are copies of the Board of Directors Code of Conduct, the Company’s Code of Conduct and Ethics, the Nominating and Corporate Governance Committee Charter, the Compensation Committee Charter and the Charter and Powers of the Audit Committee. We also maintain the website www.nutrex-hawaii.com dedicated to our wholly owned subsidiary, Nutrex Hawaii, Inc. On that website, *Spirulina Pacifica*® and *BioAstin*® are sold directly online. The information found on our websites, unless otherwise indicated, is not part of this or any other report we file or furnish to the Securities and Exchange Commission.

Item 1A. Risk Factors

You should carefully consider the risks described below which we believe are significant but not the only ones we face. Any of the following risks could have a material adverse effect on our business, financial condition and operating results. You should also refer to the other information contained in this report, including our financial statements and the related notes.

Our production of algae involves an agricultural process, subject to such risks as weather, disease, contamination and water availability.

The production of our algae products involves complex agricultural systems with inherent risks including weather, disease, and contamination. These risks are unpredictable and also include such elements as the control and balance of necessary nutrients and other factors. The efficient and effective cultivation of microalgae requires consistent light, warm temperatures, low rainfall and proper chemical balance in a very nutrient-rich environment.

If the chemical composition of a pond changes from its required balance, unusually high levels of contamination due to the growth of unwanted organisms or other biological problems may occur and would result in a loss of harvestable output. These often arise without warning and sometimes there are few or no clear indicators as to appropriate remediation or corrective measures. We believe that our technology, systems, processes and favorable growing location generally permit year-round harvest of our microalgal products in a cost-effective manner. However, environmental factors cannot be controlled in an open-air environment, therefore, we cannot, and do not attempt to, provide any form of assurance with regard to our systems, processes, location, or cost-effectiveness. In the event that we need to take steps to correct any chemical imbalance or contamination of our ponds, including by re-inoculating the ponds, such measures may not be effective and could interrupt production. To the extent that our production is negatively impacted by environmental factors, we may be unable to fill large orders for one or more months until such time that production improves. The efficient and effective cultivation and processing of microalgae requires a consistent supply of fresh water and cold ocean water. If the availability and or quality composition of water changes from its required levels, problems may occur that could result in a loss of harvestable output.

Hawaii from time to time has experienced shortages of water, electric power and fuels. Future shortages could disrupt our operations and could result in additional expense. Our *Spirulina Pacifica*® is cultivated in a combination of fresh water and deep ocean water. In the case of deep ocean water, although abundantly available at this location, the facility to pump and deliver the water to our location is owned by the State of Hawaii. The State of Hawaii sets the price for deep ocean water annually based on its cost to deliver the water. Any significant increase in the price could adversely affect our business. The availability and price of water could also be impacted by a significant population growth in the region as well as throughput constraints on the water delivery infrastructure. In June 2017, several fresh water pumps owned by the County of Hawaii were disabled, and the county instituted restrictions on fresh water supply. We have adopted several water savings strategies to mitigate this challenge, but there is no guarantee that they will be effective or that they will not have unforeseen negative effects on the growth of *Spirulina*. If we are unable to obtain enough fresh water at reasonable prices to cultivate our products, our business could be negatively impacted.

There is risk in operating entirely in one business segment such as the cultivation and production of microalgae at a single production facility.

Single location agricultural and production facilities do not provide the protections and assurances afforded by operations in two or more widely separated locations. Our single location in Hawaii is susceptible to catastrophic natural disasters such as earthquakes, tsunamis, hurricanes and volcanic eruptions. In the event of a natural disaster or localized extended outages of critical utilities or transportation systems, we could experience a significant business interruption. Also, a single agricultural facility provides limited biologic diversity protection against invasive, mutant, or harmful organisms.

Our facilities in Hawaii are located adjacent to a major airport, and an aircraft disaster could disrupt our operations.

Our production facility and corporate headquarters in Hawaii are located adjacent to the Keahole International Airport. In the event of an aircraft disaster, we could experience a significant business interruption, including loss of water, electrical and communication services as well as inability to access our facilities.

Unfavorable publicity or consumer perception of our products and any similar products distributed by other companies could have a material adverse effect on our business.

The nutritional supplements market is highly dependent upon consumer perception regarding the safety, efficacy and quality of nutritional supplements. Consumer perception of our products can be significantly influenced by scientific research and findings, as well as by national media attention and other publicity regarding the consumption of nutritional supplements. There can be no assurance that future research or publicity will be favorable to the nutritional supplements market or any product in particular, or consistent with earlier publicity. Our dependence on consumer perception means that any adverse reports, findings or publicity, whether or not accurate or with merit, could have a material adverse effect on the demand for our products and on our results of operations, cash flow and financial condition.

We may become subject to legal proceedings.

We may become subject to claims and legal proceedings in the ordinary course of business. The costs of such proceedings could vary from quarter to quarter based on the status of the proceedings and could have a material impact on our results in any given quarter.

The nutritional products industry is extremely competitive. Many of our significant competitors have greater financial and other resources than we do, and one or more of these competitors could use their greater resources to gain market share at our expense.

The nutritional products market includes international, national, regional and local producers and distributors, many of whom have substantially greater production, financial, research and development, personnel and marketing resources than we do, and many of whom offer a greater variety of products.

As a result, each of these companies could compete more aggressively and sustain that competition over a longer period of time than we could. Our lack of resources relative to our significant competitors may cause us to fail to anticipate or respond adequately to development of new products and changing consumer demands and preferences or may cause us to experience significant delays in obtaining or introducing new or enhanced products. These failures or delays could reduce our competitiveness and cause a decline in our market share and sales. Increased competition in our industry could result in price reductions, reduced gross profit margin or loss of market share, any of which could have a material effect on our business, results of operations and financial condition.

We depend heavily on the unique abilities and knowledge of our officers and key personnel. If we are unable to recruit and retain key personnel, we may be unable to achieve our goals.

Our success depends, to a significant extent, upon the services of key personnel. For example, our founder and Chief Executive Officer is our primary scientific resource, continuing to improve production and cultivation technology and to investigate new microalgal products. Our Chief Financial Officer has a unique understanding of our financial systems and needs. Our Vice President of Manufacturing and Infrastructure has years of experience with the mechanical operation of the production facility and continues to improve our production process. Our Vice President of Quality and Regulatory Affairs has experience and knowledge of federal and state regulations governing our production processes and product representation essential to continuing compliance. The loss of any such personnel or the delay in the replacement of such personnel could significantly delay the achievement of our business objectives and could adversely affect our ability to do business or provide needed management. Attracting permanent skilled executives in Hawaii can be difficult due to limited local qualified applicants. If we are unable to attract qualified candidates, or if the search process takes longer than expected, it could adversely impact our business.

Our operations are vulnerable because we have limited personnel and redundancy and backup systems in our data management function.

Our internal order, inventory and product data management system is an electronic system through which orders are placed for our products and through which we manage product pricing, shipment, returns and other matters. This system's continued and uninterrupted performance is critical to our day-to-day business operations. Despite our precautions, unanticipated interruptions in our computer and telecommunications systems have, in the past, caused problems or stoppages in this electronic system. These interruptions, and resulting problems, could occur again in the future. We also have limited personnel available to process purchase orders and to manage product pricing and other matters in any manner other than through this electronic system. Any significant interruption or delay in the operation of this electronic management system could cause a decline in our sales and profitability.

The loss of a major customer, or a change in their procurement practices, could result in a material reduction in our revenues and profitability.

Our top ten customers generated 78% and 67% of our net sales during fiscal 2019 and fiscal 2018, respectively. Two customers accounted for 33% and 24%, respectively, of our total net sales in the fiscal year ended March 31, 2019. Accordingly, the loss of one or more of those customers or a substantial decrease in such customers' purchases from us could result in a material reduction in our revenues and profitability.

We have recently been made aware of a possibility that Amazon, one of our major customers, may be changing its procurement practices. If these changes occur, it is possible that Amazon would no longer order products directly from us, but instead include us in the Amazon seller marketplace which would allow Amazon customers to purchase directly from us. It is unclear if and when these changes might occur and, if they do, what impact it would have on our sales.

We could be subject to breaches of our information technology systems, which could damage our reputation and customer relationships. Such breaches could subject us to significant reputational, financial, legal, and operational consequences.

Our business relies on information systems to obtain, rapidly process, analyze and manage data to, among other things, facilitate the purchase and distribution of inventory items through numerous distributors; receive, process and ship orders on a timely basis; accurately bill and collect from customers; process payments to suppliers; and provide technical support to our customers.

A cyberattack that bypasses our security, or employee error, malfeasance or other disruptions that cause a security breach could lead to a material disruption of our information systems and/or the loss of business information. Such an attack could result in, among other things, the theft, destruction, loss, misappropriation or release of confidential data and intellectual property; operational or business delays; liability for a breach of personal information belonging to our customers or our employees; and damage to our reputation any of which could have a material adverse effect on our business, financial condition, and results of operations. In the event of an attack, we would be exposed to a risk of loss or litigation and possible liability, including under laws that protect the privacy of personal information.

Compliance with new and existing governmental regulations could increase our costs significantly and adversely affect our results of operations.

The processing, formulation, manufacturing, packaging, labeling, advertising and distribution of our products are subject to federal laws and regulation by one or more federal agencies, including the FDA, the FTC, the USDA and the EPA. These activities are also regulated by various state, local and international laws and agencies of the states and localities in which our products are sold. Regulations may prevent or delay the introduction, or require the reformulation, of our products, which could result in lost sales and increased costs to us. A regulatory agency may not accept the evidence of safety for any new ingredients that we may want to market, may determine that a particular product or product ingredient presents an unacceptable health risk, may determine that a particular statement of nutritional support on our products or that parties use on the products we manufacture for them, or that we want to use on our products or that third parties want to use on the products we manufacture for them, is an unacceptable drug claim or an unauthorized version of a food “health claim”. A regulatory agency may determine that particular claims are not adequately supported by available scientific evidence. Any such regulatory determination would prevent us from marketing particular products or using certain statements on those products, which could adversely affect our sales of those products.

Additional or more stringent laws and regulations of dietary supplements and other products have been considered from time to time. These developments could require reformulation of some products to meet new standards, recalls or discontinuance of some products not able to be reformulated, additional record-keeping requirements, increased documentation of the properties of some products, additional or different labeling, additional scientific substantiation, or other new requirements. Any of these developments could increase our costs significantly. In addition, regulators’ evolving interpretation of existing laws could have similar effects.

If we fail to comply with the reporting obligations of the Exchange Act and Section 404 of the Sarbanes Oxley Act or fail to maintain adequate internal control over financial reporting, our business, financial condition, and results of operations, and investors’ confidence in us, could be materially and adversely affected.

As a public company, we are required to comply with the periodic reporting obligations of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), including preparing annual reports, quarterly reports, and current reports. Our failure to prepare and disclose this information in a timely manner and meet our reporting obligations in their entirety could subject us to penalties under federal securities laws and regulations of The Nasdaq Stock Market LLC (“NASDAQ”), expose us to lawsuits, and restrict our ability to access financing on favorable terms, or at all.

In addition, pursuant to Section 404 of the Sarbanes Oxley Act, we are required to evaluate and provide a management report of our systems of internal control over financial reporting. During the course of the evaluation of our internal control over financial reporting, we could identify areas requiring improvement and could be required to design enhanced processes and controls to address issues identified through this review. This could result in significant delays and costs to us and require us to divert substantial resources, including management time, from other activities. In addition, if we fail to maintain the adequacy of our internal control over financial reporting, we may not be able to ensure that we can conclude on an ongoing basis that we have effective internal control over financial reporting in accordance with the Sarbanes Oxley Act. Moreover, effective internal controls are necessary for us to produce reliable financial reports and are important to help prevent fraud. Any failure to maintain compliance with the requirements of Section 404 on a timely basis could result in the loss of investor confidence in the reliability of our financial statements, which in turn could, negatively impact the trading price of our stock, and adversely affect investors’ confidence in the Company and our ability to access capital markets for financing.

Our three largest shareholders own a substantial portion of our common stock and could exert substantial influence over our business, particularly if any of them choose to work together.

Our three largest shareholders collectively own approximately 48.1% of our common stock. According to publicly filed beneficial ownership reports, Michael Davis, chairman of our board of directors, beneficially held 1,068,215 of shares representing a 18.1% beneficial ownership, the Rudolf Steiner Foundation, or RSF, beneficially owned 917,133 shares representing a 15.6% beneficial ownership, and Meridian OHC Partners held 850,116 shares representing a 14.4% beneficial ownership. The shares held by RSF were originally donated by a foundation affiliated with Mr. Davis or acquired from the proceeds of donations made by that foundation. In addition, Mr. Davis and RSF filed a Schedule 13D with the SEC on March 17, 2017 announcing the formation of a “group” among the two of them and certain of Mr. Davis’ affiliates under Section 13 of the Exchange Act. As part of the agreement between Mr. Davis and RSF, RSF has agreed not to sell, transfer or otherwise dispose of any of its shares in the Company unless RSF provides concurrent written notice to an affiliate of Mr. Davis and the Company at least three days prior to the consummation of any such sale, transfer or other disposition. In addition, on April 12, 2019, the Company borrowed \$1.5 million from an entity affiliated with Mr. Davis pursuant to an unsecured promissory note.

Our significant stockholders, particularly if they choose to work together, may have the ability to exert significant influence over our business policies and affairs on matters submitted to our stockholders for approval, such as the election or removal of directors, amendments to our certificate of incorporation, the approval of a business combination or certain corporate financing activities. The interests of our significant stockholders could differ from those of other stockholders in ways that could be adverse to the interests of other shareholders. For example, this concentration of ownership could have the effect of delaying or preventing a change of control of our company even if such a transaction is at a premium to the prevailing market price of our common stock and is supported by other shareholders. Concentration of ownership could also harm the market price of our common stock because investors may perceive disadvantages in owning stock in a company that a substantial portion of common stock is controlled by a small number of stockholders.

Some provisions of our charter documents and Nevada law may discourage an acquisition of us by others, even if the acquisition may be in the best interest of our stockholders.

Provisions in our Restated Articles of Incorporation and Amended and Restated Bylaws, as well as certain provisions of Nevada law, could make it more difficult for a third-party to acquire us, even if doing so may benefit our stockholders. These provisions include the authorization of “blank check” preferred stock, the rights, preferences and privileges of which may be established and shares of which may be issued by our board of directors at its discretion from time to time and without stockholder approval.

Because we are incorporated in Nevada, we may be governed by Nevada’s statutes governing combinations with interested stockholders and control share acquisitions, which may discourage, delay or prevent someone from acquiring us or merging with us, whether or not it is desired by or beneficial to our stockholders. We have not opted out of the application of these laws but may elect to opt out in the future. Under Nevada’s laws governing combinations with interested stockholders, a Nevada corporation may not, in general, engage in certain types of business combinations with any beneficial owner of 10% or more of the corporation’s voting shares or an affiliate of the corporation who at any time within two years immediately prior to the date in question was the beneficial owner of 10% or more of the corporation’s voting shares, unless the holder has held the stock for two years or the board of directors approved the beneficial owner’s acquisition of its shares, the board of directors approved the transaction before the beneficial owner acquired its shares, or holders of at least a majority of the outstanding voting power approve the transaction after the beneficial owner acquired its shares. In addition, Nevada’s control share acquisition laws prohibit a purchaser of the shares of an issuing corporation from voting those shares, under certain circumstances and subject to certain limitations, after crossing specified threshold ownership percentages, unless the purchaser obtains the approval of the issuing corporation’s disinterested stockholders.

Any provision of our Restated Articles of Incorporation or Amended and Restated Bylaws or of Nevada law that is applicable to us that has the effect of delaying or deterring a change in control could limit the opportunity for our stockholders to receive a premium for their shares of our common stock in the event that a potentially beneficial acquisition is discouraged, and could also affect the price that some investors are willing to pay for our common stock.

A significant or prolonged economic downturn could have a material adverse effect on our results of operations.

Our results of operations are affected by the business activity of our customers who in turn are affected by the level of economic activity in the industries and markets that they serve. A decline in the level of business activity of our clients or the economy as a whole could have a material adverse effect on our revenues and profit margin.

The global cost of oil derived energy impacts us in several ways, and it may hinder our efforts to achieve profitability. Oil prices primarily impact us through the costs of electricity, transportation, materials and supplies which are tied to the cost of oil either directly or indirectly. The return of a high cost of oil on a global basis may signal a prolonged economic downturn resulting in a material adverse effect on our business.

Our quarterly operating results may vary from quarter to quarter, which may result in increased volatility of our share price.

We have experienced, and may in the future continue to experience, fluctuations in our quarterly operating results. These fluctuations could reduce the market price of our common stock. Factors that may cause our quarterly operating results to vary include, but are not limited to:

- weather-related cultivation difficulties;
- availability and cost of fresh water and ocean water;
- any non-routine legal fees;
- fluctuations in customer demand;
- business decisions of our customers regarding orders for our products;
- changes in energy costs;
- changes in raw material costs;
- production problems which we cannot solve technically or economically;
- contamination of our cultivation and production facilities;
- effects of weather on our ability to meet customer demand;
- timing of promotional activities;
- the introduction of new products by us or our competitors;
- changes in our pricing policies or those of our competitors;
- changes in seasonal and other trends in our customers' buying patterns;
- changes in government regulation, both domestic and foreign;
- fluctuation in foreign currency exchange rates;
- global economic and political conditions and related risks, including acts of terrorism; and
- other factors beyond our control.

A significant portion of our expense levels are relatively fixed. If net sales are below expectations in any given period, the adverse impact on results of operations may be magnified by our inability to reduce expenses quickly enough to compensate for the sales shortfall.

Our global operations expose us to complex management, foreign currency, legal, tax and economic risks, which we may not be able to address quickly and adequately.

Our products are marketed in a number of countries around the world. For the year ended March 31, 2019, approximately 20% of our net sales were from sales to foreign customers. As a result, we are subject to a number of risks which include, but are not limited to:

- the burden of complying with a wide variety of national and local laws;
- potentially longer payment cycles for foreign sales;
- restrictions (government and otherwise) on the movement of cash;

- the absence in some jurisdictions of effective laws protecting our intellectual and proprietary property rights, or of enforcement of such laws where they do exist;
- changes in government regulations, both domestic and foreign, including changes in trade tariffs;
- global economic and political conditions and related risks, including acts of terrorism; and
- fluctuations in foreign currency exchange rates.

Climate change initiatives could materially and adversely affect our business, financial condition, and results of operations.

Our manufacturing processes require that we purchase significant quantities of energy from third parties, which results in the generation of greenhouse gases, either directly onsite or indirectly at electric utilities. Both domestic and international legislation to address climate change by reducing greenhouse gas emissions and establishing a price on carbon could create increases in energy costs and price volatility. Considerable international attention is now focused on development of an international policy framework to address climate change. Proposed and existing legislative efforts to control or limit greenhouse gas emissions could affect our energy source and supply choices as well as increase the cost of energy and raw materials derived from sources that generate greenhouse gas emissions. If our suppliers are unable to obtain energy at a reasonable cost in the future, the cost of our raw materials could be negatively impacted which could result in increased manufacturing costs.

If we are unable to protect our intellectual property rights or if we infringe upon the intellectual property rights of others our business may be harmed.

We currently have three United States patents in force for use of our *BioAstin*® products. We regard our proprietary technology, trade secrets, trademarks and similar intellectual property as important and we rely on a combination of trade secret, contract, patent, copyright and trademark law to establish and protect our rights in our products and technology. However, there can be no assurance that we will be able to protect our technology adequately or that competitors will not be able to develop similar technology independently. In addition, the laws of certain foreign countries may not protect our intellectual property rights to the same extent as the laws of the United States. Litigation in the United States or abroad may be necessary to enforce our patent or other intellectual property rights, to protect our trade secrets, to determine the validity and scope of the proprietary rights of others or to defend against claims of infringement. Such litigation, even if successful, could result in substantial costs and diversion of resources and could have a material adverse effect on our business, results of operations and financial condition. Additionally, if any such claims are asserted against us, we may seek to obtain a license under the third party's intellectual property rights. There can be no assurance, however, that a license would be available on terms acceptable or favorable to us, if at all.

Our insurance liability coverage is limited and may not be adequate to cover potential losses.

In the ordinary course of business, we purchase insurance coverage (e.g., property and liability coverage) to protect us against loss of or damage to our properties and claims made by third parties and employees for property damage or personal injuries. However, the protection provided by such insurance is limited in significant respects and, in some instances, we have no coverage and certain of our insurance policies have substantial "deductibles" or limits on the maximum amounts that may be recovered. For example, if a volcanic eruption, tsunami, earthquake or other catastrophic natural disaster should occur, we may not be able to recover all facility restoration costs and revenues lost from business interruption. In addition, we maintain product liability insurance in limited amounts for all of our products involving human consumption; however, broader product liability coverage is prohibitively expensive. Insurers have also introduced new exclusions or limitations of coverage for claims related to certain perils including, but not limited to, mold and terrorism. If a series of losses occurred, such as from a series of lawsuits in the ordinary course of business each of which were subject to the deductible amount, or if the maximum limit of the available insurance were substantially exceeded, we could incur losses in amounts that would have a material adverse effect on our results of operations and financial condition.

Our ability to develop and market new products or modify existing products and production methods may be adversely affected if we lose the services of or cannot replace certain employees knowledgeable in advanced scientific and other fields.

Our products are derived from and depend on proprietary and non-proprietary processes and methods founded on advanced scientific knowledge, skills, and expertise. If the services of employees knowledgeable in these fields are lost and cannot be replaced in a reasonable time frame at reasonable costs, our ability to develop and market new products or modify existing products and production methods would be adversely impacted. At the same time, regulatory compliance surrounding our products and financial matters generally requires a basic knowledge and level of expertise related to production, quality assurance, and financial control. If we lose the services or cannot reasonably replace employees who have the necessary knowledge and expertise our ability to remain in regulatory compliance could be adversely affected.

We may need to raise additional capital in the future which may not be available.

We believe our cash to be provided from operations will be sufficient to meet our working capital and operating requirements for at least the next 12 months, but we may experience unexpected reductions in sales due to changes in customer demand, customer purchasing practices, or other factors described in these Risk Factors. If we have an unexpected decline in sales, or we have other unexpected capital needs, we may need to raise additional funds. There is no guarantee that we will be able to secure such funding on acceptable terms, if at all. If we raise additional funds through the issuance of equity or convertible debt securities, the percentage ownership of our then current stockholders may be reduced. If we raise additional funds through the issuance of convertible debt securities, or through additional debt or similar instruments, such securities, debt, or similar instruments could have rights senior to those of our common stockholders and such instruments could contain provisions restricting our operations. If adequate funds are not available to satisfy either short-term or long-term capital requirements, we may be required to limit operations with adverse results.

We may not be able to refinance, extend or repay our senior indebtedness, which would have a material adverse effect on our financial condition and ability to continue as a going concern.

As of March 31, 2019, we owed First Foundation Bank (the “Bank”) approximately \$7.8 million, which consists of (i) \$2.0 million owing under a Revolving Credit Agreement dated June 3, 2016, (ii) \$4.4 million owing under a Term Loan Agreement dated August 14, 2012, which requires monthly payments of principal and interest until its maturity on August 14, 2032, and (iii) \$1.4 million owing under a Term Loan Agreement dated July 30, 2015, which requires monthly payments of principal and interest until its maturity on September 1, 2022. If we are unable to make payments when due under these agreements, or repay these obligations at maturity, and we are otherwise unable to extend the maturity dates or refinance these obligations, we would be in default. We cannot provide any assurances that we will be able to generate the necessary amount of capital to make payments as they become due, or to repay these obligations, or that we will be able to extend the maturity dates or otherwise refinance these obligations. In the event of default on any of these loans, the Bank would have the right to exercise its rights and remedies to collect, which would include foreclosing on our assets. Accordingly, a default would have a material adverse effect on our business and, if the Bank exercises its rights and remedies, we would likely be forced to seek bankruptcy protection.

In addition, the agreements governing our indebtedness include certain debt service and other financial covenants that we must satisfy. In previous years, we have defaulted on certain of these covenants and have received waivers of the defaults from the Bank. As of March 31, 2019, the Company was not in compliance with the required debt service coverage ratio or the current ratio, but the Bank provided a waiver of the default on June 17, 2019. We cannot provide any assurance that the Bank would provide us with a waiver should we not be in compliance in the future. A failure to maintain compliance along with our lender not agreeing to a waiver for the non-compliance would cause the outstanding borrowings to be in default and payable on demand which would have a material adverse effect on us and our ability to continue as a going concern.

We have incurred significant losses in the past. If we incur significant losses in the future, we will experience negative cash flow which may hamper current operations and prevent us from sustaining or expanding our business.

As of March 31, 2019, we had an accumulated deficit of approximately \$17.7 million, primarily as a result of a current loss of \$3.6 million and other significant losses incurred during previous fiscal years. Historically, we have relied upon cash from operations and financing activities to fund all of the cash requirements of our business. However, no assurance can be provided that we will return to profitability and, even if we do return to profitability, extended periods of profitability and net income do not assure positive cash flows. Future periods of net losses from operations could result in negative cash flow, may cause us to default on certain covenants in our existing debt instruments and may hamper ongoing operations and prevent us from sustaining or expanding our business. We cannot assure you that we will achieve, sustain or increase profitability on a quarterly or annual basis in the future. If we do not achieve, sustain or increase profitability, our business will be adversely affected and our stock price may decline.

Our stock price is volatile, which could result in substantial losses for investors purchasing shares of our common stock.

Stock markets have experienced extreme volatility that has often been unrelated to the operating performance of particular companies. These broad market fluctuations may adversely affect the trading price of our common stock. In addition, the average daily trading volume of the securities of small companies can be very low. Limited trading volume of our stock may contribute to its future volatility. Price declines in our common stock could result from general market and economic conditions and a variety of other factors, including any of the following:

- volatility resulting from minimal trading activity;
- changes in market valuations of similar companies;
- stock market price and volume fluctuations generally;
- economic conditions specific to the nutritional products industry;
- economic conditions tied to global resource markets, such as fuel costs;
- announcements by us or our competitors of new or enhanced products or of significant contracts, acquisitions, strategic relationships, joint ventures or capital commitments;
- fluctuations in our quarterly or annual operating results;
- changes in our pricing policies or the pricing policies of our competitors;
- changes in foreign currency exchange rates affecting our product costs, pricing or our customers markets;
- regulatory developments affecting our specific products or industry; and
- additions or departures of key personnel.

The price at which you purchase shares of our common stock may not be indicative of the price that will prevail later in the trading market. You may be unable to sell your shares of common stock at or above your purchase price, which may result in substantial losses to you. As of March 31, 2019, there were approximately 5.9 million shares of our common stock outstanding and stockholders holding at least 5% of our stock, individually or with affiliated persons or entities, collectively beneficially owned or controlled approximately 48% of such shares. Sales of large numbers of shares by any of our large stockholders could adversely affect our trading price, particularly given our relatively small historic trading volumes. If stockholders holding shares of our common stock sell, indicate an intention to sell, or if it is perceived that they will sell, substantial amounts of their common stock in the public market, the trading price of our common stock could decline. Moreover, if there is no active trading market or if the volume of trading is limited, holders of our common stock may have difficulty selling their shares.

Recent European Union regulations include stringent requirements for health claims on food and supplement labels.

The European Union has harmonized standards among Member States for health claims on food and supplement labels. The scientific assessment of health claims is performed by the European Food Safety Authority (EFSA), an advisory panel to the European Commission. The European Commission will consider the opinions of EFSA in determining whether to include a health claim on a Positive List of permissible claims. Once the list is published, only health claims for ingredients and products included on the list may be used in promotional materials for products marketed and sold in the European Union. This could severely decrease or limit the marketability for our products in this market area. We have implemented strategies that we believe will allow for continued and increasing sales of our products in the European Union. However, there can be no guarantee that such strategies will be successful.

Item 2. Properties

Our principal facility and corporate headquarters is located at the Natural Energy Laboratory of Hawaii Authority (“NELHA”) at Keahole Point in Kailua-Kona, Hawaii. It encompasses approximately 96 fully developed acres containing microalgal cultivation ponds, processing facilities, research and quality control laboratories, and sales and administrative offices. The property is leased from the State of Hawaii under a 40-year commercial lease expiring in 2035 and a 19-year commercial lease expiring in 2037. Our lessee interest in the NELHA leases is encumbered by a mortgage securing approximately \$7.8 million of debt (see Note 6 in the notes to our consolidated financial statements). If we were to require additional land for expansion, we believe that there is sufficient available land at NELHA, provided a revised NELHA leases can be negotiated with acceptable terms. Under the terms of the existing NELHA leases, we could be required to remove improvements at the end of the lease term. Based upon our analysis, we do not believe the projected cost for such removal to be reasonably estimable, and we also believe we are unlikely to incur such costs, given historical practices. However, conditions could change in the future and it is not possible to predict such changes or estimate any impact thereof. We also rent warehouse space in Rancho Cucamonga.

Item 3. Legal Proceedings

From time to time, we may become party to lawsuits and claims that arise in the ordinary course of business relating to employment, intellectual property, and other matters. There were no significant legal matters outstanding at March 31, 2019.

PART II

Item 5. Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Our common stock is listed and traded on the NASDAQ Capital Market under the symbol “CYAN”. The closing price of our common stock was \$3.05 as of June 17, 2019. The approximate number of holders of record of our common stock was 396 as of June 17, 2019. The high and low selling prices as reported by NASDAQ were as follows:

Quarter Ended:	June 30	September 30	December 31	March 31
Fiscal 2019				
Common stock price per share:				
High	\$ 5.66	\$ 4.20	\$ 3.77	\$ 4.07
Low	\$ 3.85	\$ 3.21	\$ 3.02	\$ 3.00
Fiscal 2018				
Common stock price per share:				
High	\$ 4.00	\$ 5.35	\$ 5.35	\$ 5.78
Low	\$ 3.25	\$ 3.25	\$ 3.82	\$ 3.45

We are prohibited from declaring any common stock dividends without the prior written consent of a lender per the conditions of an existing term loan agreement with such lender. We have never declared or paid cash dividends on our common stock. We currently do not anticipate paying any cash dividends on common stock.

The following table sets forth the Company’s common shares authorized for issuance under equity compensation plans as of March 31, 2019:

	Common shares to be issued upon exercise of options and restricted stock units outstanding (in shares)	Weighted-average exercise price of outstanding options and restricted stock units	Common shares available for future grant under equity compensation plans (in shares)
Equity compensation, plans approved by security holders	683,338	\$ 3.08	1,251,250

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

Management’s Discussion and Analysis of Financial Condition and Results of Operations (“MD&A”) is intended to provide a reader of our financial statements with a narrative of our financial condition, results of operations, liquidity and certain other factors that may affect our future results from the perspective of management.

Our MD&A should be read in conjunction with the consolidated financial statements and notes thereto appearing elsewhere in this Form 10-K. A more comprehensive description of our products and markets for such products is provided in Part I. Item 1. Business.

Overview

We are an agricultural company and a world leader in the production of natural products derived from microalgae grown in complex and intricate agricultural systems on the Kona coast of Hawaii. We have a core competency in cultivating and processing microalgae into high-value, high-quality natural products for the human nutrition market. We are unique in that our microalgae are grown year-round in open ponds which, similar to natural land and plant based horticulture, require favorable weather conditions. In our case these conditions include consistent light, warm temperatures and low rainfall to achieve optimum production. Equally important is a nutrient-rich environment, which requires the proper control and balance of necessary nutrients to support growth and yields. Greater variability in these environmental factors more commonly occur in our winter growing season.

Our products are sold as consumer packaged goods through natural products distributors, retailers and online channels, and direct to consumers, primarily in the U.S., as well as in bulk form to manufacturers, formulators and distributors worldwide in the health foods and nutritional supplements markets.

We will continue to focus on growing the market for our high quality, higher margin consumer products by emphasizing the higher nutritional content of our Hawaiian spirulina and the benefits of our natural astaxanthin. We generated 20%, 23% and 28% of our revenues outside of the United States during the years ended March 31, 2019, 2018 and 2017, respectively. Competing in a global marketplace, we are influenced by the general economic conditions of the countries in which our customers operate, including adherence to our customers' local governmental regulations and requirements. Since all sales are made in U.S. currency, we have no material foreign exchange exposure.

Our production levels have a significant impact on our gross profit margin, as well as our ability to meet customer demand. Because our processes are agricultural and a large percentage of our production costs are fixed, it is important to maintain production volumes to support the minimal resource levels required to sustain a large-scale open culture agricultural facility. Our production costs include customary variables such as availability and costs of personnel, raw materials, energy, water and freight. These variables fluctuate based on changes in the local, national and world economies. More complex variables include cultivation methods, feeding formulations and harvesting processes, all of which include efforts to anticipate the extent of weather and environmental events and make timely and sufficient adjustments. Although the variability of such costs cannot be fully anticipated, we have focused increased effort in this area in order to produce both spirulina and astaxanthin at levels sufficient to fully absorb production costs into inventory.

Fresh water is critical for our natural astaxanthin and spirulina production, and while we have not experienced any long-term constraint on fresh water availability, future availability could be negatively impacted by significant growth in the local population as well as by throughput constraints on the water delivery infrastructure owned by the County of Hawaii. Given the criticality of fresh water to our operations and the community, we recycle fresh water where possible and have developed additional water recycling systems in our efforts to utilize fresh water efficiently. Both fresh and sea water require electricity for pumping; and electricity, our single largest expenditure, depends on the cost of fuel which is, in turn, tied to the global price of crude oil.

Complex biological processes in the cultivation and processing of our microalgae are influenced by factors beyond our control—the weather, for example. As a result, we cannot assure that adequate production levels will be consistent period over period. To the extent that our production levels are not sufficient to absorb these costs on a period basis, we recognize abnormal and non-inventoriable production costs, including fixed cost variances from normal production capacity, as an expense in the period incurred. Abnormal amounts of freight, handling costs and wasted material (spoilage) are recognized as current-period charges and fixed production overhead costs are allocated to inventory based on the normal capacity of production facilities. Normal capacity is defined as “the production expected to be achieved over a number of periods or seasons under normal circumstances, taking into account the loss of capacity resulting from planned maintenance.” To offset increased production costs, we seek ways to increase production efficiencies in volume yield, potency, and quality consistent with our commitment to produce high-value, high-quality products.

We utilize several third-party contractors for encapsulation of our gelcaps and for the packaging of our finished products. Although these services are available from a limited number of sources, we believe that we have the ability to use other parties if any of the current contractors become unavailable.

Fiscal 2019 summary:

Our fiscal 2019 was impacted by unexpected events that took place in the fourth quarter of fiscal 2018 and had an adverse effect on our production of spirulina. During fiscal 2018, several fresh water pumps owned by the County of Hawaii were disabled, and the County instituted restrictions on fresh water supply. To mitigate this challenge, we adopted several water saving strategies, some of which may have had a detrimental effect on the growth of spirulina. Additionally, during the fourth quarter of fiscal 2018, our spirulina production was adversely affected by unusually high rainfall, low temperatures and significant reductions in sunlight.

In response to these production challenges, at the beginning of fiscal 2019, we undertook a re-inoculation of our spirulina ponds which allowed us to correct the nutrient levels and stabilize production. During the re-inoculation process, which was completed in May 2018, there was no spirulina production. In addition, following the re-inoculation, production levels were below normal until August 2018. As a result, we experienced higher than normal production costs and variances which had a negative impact of \$2.1 million on our results for the year. The low inventory levels cause by our production difficulties also contributed to a \$2.3 million reduction in spirulina sales for the year.

Additional developments during the 2019 fiscal year include the following:

- Net sales for the year were \$30.2 million, a decrease of 11.5% from the prior year, driven primarily by a 18% decrease in spirulina sales and a 9% decrease in astaxanthin sales.
- The pretax loss for the year was \$3.6 million compared to pretax income of \$0.9 million in fiscal 2018. The decline in pretax income was the result of decreased sales and margins related to the spirulina production issues, along with an increase in operating costs of \$1.5 million compared to fiscal 2018.
- Cash used by operating activities was \$ 0.8 million, a decrease of \$2.3 million from fiscal 2018 due primarily to the net loss for the year. Cash at March 31, 2019 decreased \$0.5 million compared to last year due to primarily a decrease in net sales compared to fiscal 2018.
- In November 2018, we completed our purchase of the former Cellana Demonstration Facility adjacent to the northern border of our existing 90 acres. The \$0.5 million purchase of this six-acre pilot production and research facility provides us with upgraded and expanded lab space that will facilitate our quality control and research and development efforts. We are particularly excited to use equipment, facilities and infrastructure such as small and mid-scale open ponds, photobioreactors and fermentation systems.

Results of Operations for the 2019, 2018, and 2017 Fiscal Years

The following tables present selected consolidated financial data for each of the past three fiscal years (\$ in thousands):

Consolidated Performance Summary	2019	2018	2017
Net sales	\$ 30,202	\$ 34,115	\$ 32,042
Net sales increase (decrease)	(11.5)%	6.5%	0.6%
Gross profit	\$ 10,466	\$ 13,371	\$ 12,224
Gross profit as % of net sales	34.7%	39.2%	38.1%
Operating expenses	\$ 13,463	\$ 11,957	\$ 12,906
Operating expenses as % of net sales	44.6%	35.0%	40.3%
Operating (loss) income	\$ (2,997)	\$ 1,414	\$ (682)
Operating (loss) income as % of net sales	(9.9)%	4.1%	(2.1)%
Income tax (expense) benefit	\$ (17)	\$ 110	\$ (5)
Net (loss) income	\$ (3,596)	\$ 1,025	\$ (1,215)
Net sales by product	2019	2018	2017
Packaged sales			
Astaxanthin packaged	\$ 18,792	\$ 20,560	\$ 18,367
Astaxanthin packaged sales (decrease) increase	(8.6)%	11.9%	0.1%
Spirulina packaged	\$ 7,867	\$ 8,815	\$ 7,489
Spirulina packaged sales (decrease) increase	(10.8)%	17.7%	2.8%
Total Packaged sales	\$ 26,659	\$ 29,375	\$ 25,856
Total Packaged sales (decrease) increase	(9.2)%	13.6%	0.9%
Bulk sales			
Astaxanthin bulk	\$ 966	\$ 1,090	\$ 990
Astaxanthin bulk sales (decrease) increase	(11.3)%	10.1%	(33.2)%
Spirulina bulk	\$ 2,340	\$ 3,650	\$ 5,196
Spirulina bulk sales (decrease) increase	(35.9)%	(29.8)%	9.9%
Total Bulk sales	\$ 3,306	\$ 4,740	\$ 6,186
Total Bulk sales (decrease)	(30.2)%	(23.3)%	(0.4)%
Contract extraction revenue	\$ 237	—	—

Fiscal 2019 results compared with Fiscal 2018

Net Sales Net sales decreased 11.5% in the year ended March 31, 2019 compared with 2018. This decrease was driven by a 9.2% decrease in sales of our packaged Nutrex Hawaii products, and a 30.2% decrease in bulk sales when compared with 2018. The decrease in packaged sales for spirulina was the result of lack of available product, which also impacted astaxanthin sales for certain channels that have historically displayed and promoted the two products together. The bulk sales decrease is also primarily the result of lack of product available for our bulk customers. Two customers accounted for 33% and 24%, respectively, of our total net sales in the fiscal year ended March 31, 2019. These two customers accounted for 32% and 15%, respectively, of our total net sales in the fiscal year ended March 31, 2018.

Gross Profit Our gross profit as a percent of net sales decreased by 4.5 percentage points compared to fiscal 2018. 3.2 percentage points of the decrease was the result of high cost astaxanthin inventory that was carried over from fiscal 2018 and sold in fiscal 2019, and the remaining 1.3 percentage point decrease was a result of unfavorable production variances for spirulina compared to fiscal 2018. The total impact on fiscal 2019 gross profit from the spirulina production and re-inoculation issues was \$2.1 million, or 7.0 percentage points.

Operating Expenses Operating expenses increased \$1.5 million, or 12.6%, in fiscal 2019 as compared to fiscal 2018, and increased as a percentage of net sales by 9.6 percentage points. General and Administrative expenses increased \$0.8 million, or 15.4%, due to a \$0.3 million increase in legal and professional fees, a \$0.2 million increase due to pre-operating costs of the new pilot production and research facility, and a \$0.3 million increase in labor costs. Sales and Marketing expenses increased \$0.4 million, due primarily to a \$0.9 million increase in advertising costs, offset by a \$0.3 million decrease in product demonstration costs and a \$0.1 million decrease in broker costs. Research and Development expenses increased \$0.4 million primarily due to a \$0.2 million increase in labor costs and \$0.1 million in costs related to testing a pilot production system.

Other Expense Other expense is comprised primarily of interest expense on term loans, amortization of debt issuance costs and interest on other financing agreements, offset by a nominal amount of other income.

Income Taxes We recorded an income tax expense of \$0.017 million in fiscal 2019 due primarily to an adjustment of state effective tax rates, compared to an income tax benefit of \$0.1 million in fiscal 2018.

Fiscal 2018 results compared with Fiscal 2017

Net Sales Net sales increased 6.5% in the year ended March 31, 2018 compared with 2017. This increase was driven by a 13.6% increase in sales of our packaged Nutrex Hawaii products, offset by a 23.3% decrease in bulk sales. The increase in packaged sales for both astaxanthin and spirulina was the result of continued growth in sales at our top two customers. The bulk sales decrease is primarily the result of a 29.8% decrease in spirulina sales, related to the production declines we experienced during the year. Two customers accounted for 32% and 15%, respectively, of our total net sales in the fiscal year ended March 31, 2018. In fiscal 2017, one customer accounted for 24% of our total revenue.

Gross Profit Our gross profit as a percent of net sales increased by 1.1 percentage points compared to fiscal 2017 as a result of higher mix of packaged sales, which deliver a higher gross profit margin, and lower astaxanthin costs. This improvement is net of \$0.8 million of non-inventoriable costs expensed during fiscal 2018 related to lower spirulina production in the 4th quarter of fiscal 2018, compared to \$0.2 million in fiscal 2017.

Operating Expenses Operating expenses decreased \$0.9 million, or 7.4%, in fiscal 2018 as compared to fiscal 2017, and decreased as a percentage of net sales by 5.3%. General and Administrative expenses decreased \$1.1 million, or 18.1%, due to a \$1.5 million decrease in legal costs, offset by a \$0.2 million increase in compensation costs related to restricted stock grants issued to certain Board members, and a \$0.3 million increase in incentive compensation, made up of current year accrual of \$0.2 million compared to a credit of \$0.1 million in fiscal 2017. Sales and Marketing expenses increased \$0.2 million, made up of \$0.7 million increase in advertising and promotion costs that drove sales increases in our two largest customers, offset by a \$0.5 million reduction in labor costs.

Other Expense Other expense is comprised primarily of interest expense on term loans, amortization of debt issuance costs and interest on other financing agreements, offset by a nominal amount of other income.

Income Taxes We recorded an income tax benefit of \$0.1 million in fiscal 2018 compared to an income tax expense of \$5,000 in fiscal 2017. The benefit for the year and the change in effective tax rate was the result of the favorable treatment of our AMT tax credit carryforwards under the Tax Act, that allowed us to record receivables totaling \$0.1 million.

Liquidity and Capital Resources

Sources of Liquidity As of March 31, 2019, we had cash of \$840,000 and working capital of \$5,104,000 compared to \$1,329,000 and \$7,910,000, respectively, at March 31, 2018. On August 30, 2016, the Revolving Credit Agreement (the Credit Agreement), which we entered into with First Foundation Bank (the Bank) on June 3, 2016, became effective. The Credit Agreement allows us to borrow up to \$2,000,000 on a revolving basis. At March 31, 2019, we had outstanding borrowings of \$2,000,000 on the line of credit. The line of credit is subject to renewal on August 30, 2019 and we intend to renew or replace it with another line of credit on or before the expiration date.

As of March 31, 2019, we had \$5,828,000 in long-term debt (Term Loans) payable to the Bank that require the payment of principal and interest monthly through August 2032. Pursuant to the terms of the Term Loans and the Credit Agreement, we are subject to annual financial covenants, customary affirmative and negative covenants and certain subjective acceleration clauses. As of March 31, 2019, our debt service coverage ratio of -0.66:1 fell short of the Bank's annual requirement of 1.25:1. Additionally, on March 31, 2019, our current ratio of 1.49:1 fell short of the Bank's annual requirement of 1.50:1. On June 17, 2019, the Bank provided us with a letter waiving the covenant violations as of March 31, 2019, but noting that the Bank reserved its rights to declare a default in the future if any covenants remain out of compliance at applicable measurement dates (see Note 6 in the notes to our consolidated financial statements).

In fiscal 2019, we experienced events that led to a reduction in sales and cash flows from operating activities, and a degradation of relationships with key vendors due to our inability to pay these vendors on a timely basis. The most significant of these events was a necessary re-inoculation of its spirulina ponds in the first quarter of fiscal 2019, resulting in abnormally low spirulina production through August 2018. During this period, we drew \$1.25 million on our line of credit to fund operations. In the fourth quarter of fiscal 2019, we experienced a sharp reduction in sales related the timing of customer orders and changes to our customers' inventory practices. To address the resulting cash flow shortage, we drew the remaining balance on our credit line in the fourth quarter of fiscal 2019. In April 2019, we obtained an unsecured loan of \$1.5 million from Skywords Family Foundation, Inc., (see Note 17 in the notes to our consolidated financial statements) the proceeds of which were used to pay down accounts payable and for general operating capital purposes.

Funds generated by operating activities and available cash are expected to continue to be our most significant sources of liquidity for working capital requirements, debt service and funding of maintenance levels of capital expenditures. In the first quarter of fiscal year 2020, we undertook strategic cost cutting, including the elimination of positions through attrition and the elimination of open positions to create a leaner organization. Given recent strong astaxanthin production and resulting high inventory levels, we also imposed a temporary reduction of astaxanthin production in order to eliminate variable production costs as inventory levels are reduced.

Based upon our operating plan and related cash flow and financial projections, cash flows expected to be generated by operating activities and available financing are expected to be sufficient to fund our operations through at least June 30, 2020, and our debt service coverage ratio and current ratio covenants are expected to be in compliance with the annual Term Loans and Credit Agreement covenant requirements as of March 31, 2020, the next measurement date. However, no assurances can be provided that we will achieve our operating plan and cash flow projections for the next fiscal years or our projected consolidated financial position as of March 31, 2020. Such estimates are subject to change based on future results and such change could cause future results to vary significantly from expected results.

As indicated above, the Bank has waived the violations of the debt service coverage ratio and our current ratio covenant requirements as of March 31, 2019. However, in the event we violate any covenants as of future measurement dates, there is no assurance that the Bank will continue to waive such violations. If the Bank does not waive a future violation, it could pursue remedies under the relevant agreements, including charging a higher interest rate on outstanding borrowings and calling repayment of outstanding borrowings. If this occurs, we would need to raise additional funds to repay the loans; however, we may not be able to secure such funding on acceptable terms, or at all.

As further described in the Risk Factors located in Item 1A of this Annual Report on Form 10-K, our results of operations and financial condition can be affected by numerous factors, many of which are beyond our control and could cause future results of operations to fluctuate materially as it has in the past.

Future operating results may fluctuate as a result of changes in sales volumes to our largest customers, weather patterns, increased competition, increased materials, nutrient and energy costs, government regulations and other factors beyond our control.

A significant portion of our expense levels are relatively fixed, so the timing of increases in expenses is based in large part on forecasts of future sales. If net sales are below expectations in any given period, the adverse impact on results of operations may be magnified by our inability to adjust spending quickly enough to compensate for the sales shortfall. We may also choose to reduce prices or increase spending in response to market conditions, which may have a material adverse effect on financial condition and results of operations.

Off-Balance Sheet Arrangements

As of March 31, 2019, we had no off-balance sheet arrangements or obligations.

Impact of Inflation

Inflationary factors such as increases in the costs of materials and labor directly affect our operations. Most of our leases provide for cost-of-living adjustments and require us to pay for insurance and maintenance expenses, all of which are subject to inflation. Additionally, our future lease cost for new facilities may include potentially escalating costs of real estate and construction. There is no assurance that we will be able to pass on increased costs to our customers.

Depreciation expense is based on our historical cost of fixed assets, and is therefore potentially less than it would be if it were based on current replacement cost. While property and equipment acquired in prior years will ultimately have to be replaced at higher prices, it is expected that replacement will be a gradual process over many years.

Cash Flows The following table summarizes our cash flows from operating, investing and financing activities for each of the past three fiscal years (\$ in thousands):

	2019	2018	2017
Total cash is provided by (used in):			
Operating activities	\$ (847)	\$ 1,490	\$ 1,220
Investing activities	(531)	(1,005)	(847)
Financing activities	824	(498)	(206)
Increase (decrease) in cash	<u>\$ (554)</u>	<u>\$ (13)</u>	<u>\$ 167</u>

Cash used by operating activities in fiscal 2019 was the result of \$3.6 million net loss offset by non-cash charges of \$2.3 million and a decrease in working capital of \$0.5 million for total net cash used of \$0.8 million. The increase in working capital was primarily the result of a \$1.9 million increase from accounts payables and other accruals and a \$0.7 million decrease in accounts receivable due to the timing of sales, offset by a \$2.2 million increase in inventory, of which \$1.5 million was replenishment of spirulina inventory and \$0.7 million was an increase in astaxanthin inventory.

Cash provided by operating activities in fiscal 2018 was the result of \$1.0 million in net income and non-cash charges of \$2.5 million, totaling \$3.5 million. This was offset by an increase in working capital of \$2.0 million. The increase in working capital was primarily the result of a \$1.1 million increase in astaxanthin safety stock levels and a \$0.5 million increase in accounts receivable due to the timing of sales relative to the prior year.

Cash used in investing activities in fiscal years 2019 and 2018 includes costs for leasehold improvements and equipment acquisitions at our Kona facility and in fiscal year 2019, includes cash paid to acquire the Cellana assets.

Cash provided by financing activities in fiscal 2019 consists of a \$1.5 million increase in borrowings against our line of credit, offset by \$0.7 million in principal payments on debt and payments on short-term contract obligations and \$0.1 million in proceeds from stock option exercises.

Cash used in financing activities in fiscal 2018 consists of a \$0.7 million in principal payments on debt in the normal course of business, offset by \$0.2 million in proceeds from equipment financing.

Recent Accounting Pronouncements

Except as discussed in Note 2, *Significant Accounting Policies*, in the notes to our consolidated financial statements included in this Annual Report on Form 10-K, we have considered all new accounting pronouncements and have concluded that there are no new pronouncements that may have a material impact on our results of operations, financial condition, or cash flows, based on current information.

Application of Critical Accounting Policies and Estimates

Our discussion and analysis of our financial condition and results of operations are based upon our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States ("GAAP"). The preparation of financial statements in conformity with those accounting principles requires management to make judgments and estimates that affect the amounts reported in the consolidated financial statements and accompanying notes. Actual results could differ from those estimates. Management regularly re-evaluates its judgments and estimates which are based upon historical experience and on various other assumptions that are believed to be reasonable under the circumstances. Management believes that of its significant accounting policies, policies that may involve a higher degree of judgment and complexity are inventory valuations, valuation of equipment and leasehold improvements and long-lived assets, and income taxes.

Revenue - We record revenue based on the five-step model which includes: (1) identifying the contract with the customer; (2) identifying the performance obligations in the contract; (3) determining the transaction price; (4) allocating the transaction price to the performance obligations; and (5) recognizing revenue when the performance obligations are satisfied. Substantially all of our revenue is generated by fulfilling orders for the purchase of our micro algal nutritional supplements to retailers, wholesalers, or direct to consumers via online channels, with each order considered to be a distinct performance obligation. These orders may be formal purchase orders, verbal phone orders, e-mail orders or orders received online. Shipping and handling activities for which we are responsible under the terms and conditions of the order are not accounted for as performance obligations but as fulfillment costs. These activities are required to fulfill our promise to transfer the goods and are expensed when revenue is recognized. The impact of this policy election is insignificant as it aligns with our current practice.

Revenue is measured as the net amount of consideration expected to be received in exchange for fulfilling a performance obligation. We have elected to exclude sales, use and similar taxes from the measurement of the transaction price. The impact of this policy election is insignificant, as it aligns with our current practice. The amount of consideration expected to be received and revenue recognized includes estimates of variable consideration, which includes costs for trade promotion programs, coupons, returns and early payment discounts. Such estimates are calculated using historical averages adjusted for any expected changes due to current business conditions and experience. We review and update these estimates at the end of each reporting period and the impact of any adjustments are recognized in the period the adjustments are identified. In assessing whether collection of consideration from a customer is probable, we consider the customer's ability and intent to pay that amount of consideration when it is due. Payment of invoices is due as specified in the underlying customer agreement, typically 30 days from the invoice date, which occurs on the date of transfer of control of the products to the customer. Revenue is recognized at the point in time that control of the ordered products is transferred to the customer. Generally, this occurs when the product is delivered, or in some cases, picked up from one of our distribution centers by the customer. Revenue from extraction services is recognized when control is transferred upon completion of the extraction process.

Customer contract liabilities consist of customer deposits received in advance of fulfilling an order and are shown separately on the consolidated balance sheets. During the years ended March 31, 2019 and 2018, we recognized \$133,000 and \$119,000, respectively, of revenue from deposits that were included in contract liabilities as of March 31, 2018 and 2017, respectively. Our contracts have a duration of one year or less and therefore, we have elected the practical expedient of not disclosing revenues allocated to partially unsatisfied performance obligations.

Inventory - We record inventories at the lower of cost or net realizable value. Cost is defined as the sum of the applicable expenditures and charges directly or indirectly incurred in bringing inventories to their existing condition and location. Cost for inventory purposes may be determined under any one of several assumptions as to the flow of cost factors, such as first-in, first-out; average cost; and last-in, first-out. Our inventories are stated using the first-in, first-out method. Inventory values are subject to many critical estimates, including production levels and capacity, changes in the prices paid for raw materials, supplies, and labor, changes in yield, potency, and quality of biomass, changes in processing or production methods, and changes in the carrying value of our inventories resulting from the prices our customers are willing to pay for our products. Such estimates are revised quarterly. Changes in management's estimates could result in increases or decreases in the recorded amounts of inventory and cost of sales.

To the extent that our production levels are not sufficient to absorb all production costs on a period basis, we recognize abnormal production costs, including fixed cost variances from normal production capacity, as an expense in the period incurred. Abnormal amounts of freight, handling costs and wasted material (spoilage) are recognized as current period charges and fixed production overhead costs are allocated to inventory based on the normal capacity of production facilities. Normal capacity is defined as "the production expected to be achieved over a number of periods or seasons under normal circumstances, taking into account the loss of capacity resulting from planned maintenance." Changes in management's estimates could result in increases or decreases in the recorded amounts of inventory and cost of sales.

Management reviews inventory levels, inventory turnover, product age and product marketability quarterly to evaluate recoverability and determine if a reserve for inventory is deemed necessary.

Equipment and leasehold improvements - Equipment and leasehold improvements are reported at cost less accumulated depreciation and amortization. Self-constructed leasehold improvements include design, construction and supervision costs. These costs are recorded in construction in progress and are transferred to equipment and leasehold improvements when construction is completed and the facilities are placed in service. Long-lived assets, such as property, plant and equipment and purchased intangibles subject to amortization are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to the estimated undiscounted future cash flows expected to be generated by the asset. If the carrying amount of an asset exceeds its estimated future cash flows, an impairment charge is recognized to the extent that the carrying amount exceeds the asset's fair value. We have not recognized any impairment of long-lived assets as of March 31, 2019 and 2018.

Stock-Based Compensation - We provide compensation benefits in the form of stock options, restricted stock units and restricted stock grants to employees and non-employee directors. Our stock-based compensation expense is based on the fair value of awards, adjusted for estimated forfeitures, and amortized on a straight-line basis over the requisite service period for stock options and restricted stock units ("RSUs"). The fair value of stock options is estimated as of the date of grant using the Black-Scholes option-pricing model. This model requires input assumptions for our expected dividend yield, expected stock price volatility, risk-free interest rate and the expected option term. Restricted stock and RSUs are valued at the fair value of our common stock as of the date of the grant. See Note 10 in the notes to our consolidated financial statements.

Income taxes - Income taxes are accounted for under the asset and liability method. The asset and liability method requires the recognition of deferred tax assets and liabilities for the expected future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their tax bases and operating loss and tax credit carry forwards. Deferred tax assets and liabilities are measured using enacted income tax rates applicable to the period in which the deferred tax assets or liabilities are expected to be recovered or settled. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible.

Our judgment is required in determining any valuation allowance recorded against deferred tax assets, specifically net operating loss carryforwards, tax credit carryforwards and deductible temporary differences that may reduce taxable income in future periods. In assessing the need for a valuation allowance, we consider all available evidence including past operating results, estimates of future taxable income and tax planning opportunities. In the event we change our determination as to the amount of deferred tax assets that can be realized, we will adjust our valuation allowance with a corresponding impact to income tax expense in the period in which such determination is made.

Item 8. Financial Statements and Supplementary Data

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Board of Directors and Stockholders
Cyanotech Corporation

Opinion on the financial statements

We have audited the accompanying consolidated balance sheets of Cyanotech Corporation (a Nevada corporation) and subsidiary (the “Company”) as of March 31, 2019 and 2018, the related consolidated statements of operations, stockholders’ equity, and cash flows for each of the three years in the period ended March 31, 2019, and the related notes and financial statement schedule included under Item 15(a) (collectively referred to as the “financial statements”). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of March 31, 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended March 31, 2019, in conformity with accounting principles generally accepted in the United States of America.

Basis for opinion

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

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

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

/s/ GRANT THORNTON LLP

We have served as the Company’s auditor since 2009.

Newport Beach, California
July 1, 2019

CYANOTECH CORPORATION
CONSOLIDATED BALANCE SHEETS

March 31,

	2019	2018
	(in thousands, except share data)	
ASSETS		
Current assets:		
Cash	\$ 840	\$ 1,329
Accounts receivable, net of allowance for doubtful accounts of \$27 in 2019 and \$27 in 2018	1,982	2,664
Inventories, net	11,274	9,034
Prepaid expenses and other current assets	496	590
Total current assets	14,592	13,617
Equipment and leasehold improvements, net	14,752	15,734
Restricted cash	—	65
Other assets	282	291
Total assets	\$ 29,626	\$ 29,707
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$ 4,922	\$ 3,527
Accrued expenses	992	892
Customer deposits	626	133
Short-term contract obligation	285	—
Line of credit	2,000	500
Current maturities of long-term debt	663	655
Total current liabilities	9,488	5,707
Long-term debt, less current maturities	5,172	5,790
Other long-term liabilities	57	103
Total liabilities	14,717	11,600
Commitments and contingencies		
Stockholders' equity:		
Preferred stock of \$0.01 par value, authorized 10,000,000 shares; no shares issued and outstanding	—	—
Common stock of \$0.02 par value, authorized 50,000,000 shares; issued and outstanding 5,879,710 shares at March 31, 2019 and 5,772,032 shares at March 31, 2018	117	115
Additional paid-in capital	32,447	32,051
Accumulated deficit	(17,655)	(14,059)
Total stockholders' equity	14,909	18,107
Total liabilities and stockholders' equity	\$ 29,626	\$ 29,707

See accompanying notes to consolidated financial statements

CYANOTECH CORPORATION
CONSOLIDATED STATEMENTS OF OPERATIONS

Years ended March 31,

	2019	2018	2017
	(in thousands, except per share data)		
Net sales	\$ 30,202	\$ 34,115	\$ 32,042
Cost of sales	19,736	20,744	19,818
Gross profit	10,466	13,371	12,224
Operating expenses:			
General and administrative	5,718	4,956	6,054
Sales and marketing	6,822	6,438	6,259
Research and development	923	563	593
Total operating expense	13,463	11,957	12,906
(Loss) income from operations	(2,997)	1,414	(682)
Other expense:			
Interest expense, net	(582)	(499)	(528)
Total other expense, net	(582)	(499)	(528)
(Loss) income before income taxes	(3,579)	915	(1,210)
Income tax (expense) benefit	(17)	110	(5)
Net (loss) income	\$ (3,596)	\$ 1,025	\$ (1,215)
Net (loss) income per share:			
Basic	\$ (0.62)	\$ 0.18	\$ (0.21)
Diluted	\$ (0.62)	\$ 0.18	\$ (0.21)
Shares used in calculation of net (loss) income per share:			
Basic	5,819	5,709	5,658
Diluted	5,819	5,781	5,658

See accompanying notes to consolidated financial statements

CYANOTECH CORPORATION

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

Years ended March 31, 2019, 2018 and 2017

	<u>Common Stock Shares</u>	<u>Common Stock Amount</u>	<u>Additional Paid-in Capital</u>	<u>Accumulated Deficit</u>	<u>Total Stockholders' Equity</u>
	(in thousands, except per share data)				
Balances at March 31, 2016	5,599,797	\$ 112	\$ 31,585	\$ (13,869)	\$ 17,828
Issuances of common stock for Director Stock Grants	19,117	—	78	—	78
Issuance of common stock for exercise of stock options for cash	18,000	—	50	—	50
Issuance of common stock in connection with severance of former executive	77,500	2	(2)	—	—
Shares withheld from former executive for tax payments	(29,033)	—	(147)	—	(147)
Settlement agreement with former executive	—	—	(141)	—	(141)
Share based compensation expense	—	—	154	—	154
Net loss	—	—	—	(1,215)	(1,215)
Balances at March 31, 2017	5,685,381	114	31,577	(15,084)	16,607
Issuances of common stock for Director Stock Grants	57,501	1	275	—	276
Issuance of common stock for exercise of stock options for cash	29,150	—	75	—	75
Share based compensation expense	—	—	124	—	124
Net income	—	—	—	1,025	1,025
Balances at March 31, 2018	5,772,032	115	32,051	(14,059)	18,107
Issuances of common stock for Director Stock Grants	47,223	1	169	—	170
Issuance of common stock for exercise of stock options for cash	49,600	1	107	—	108
Issuances of vested shares of restricted stock	16,003	—	—	—	—
Shares withheld for tax payments	(5,148)	—	(32)	—	(32)
Share based compensation expense	—	—	152	—	152
Net loss	—	—	—	(3,596)	(3,596)
Balances at March 31, 2019	5,879,710	\$ 117	\$ 32,447	\$ (17,655)	\$ 14,909

See accompanying notes to consolidated financial statements

CYANOTECH CORPORATION
CONSOLIDATED STATEMENTS OF CASH FLOWS

Years ended March 31,

	2019	2018	2017
		(in thousands)	
CASH FLOWS FROM OPERATING ACTIVITIES:			
Net (loss) income	\$ (3,596)	\$ 1,025	\$ (1,215)
Adjustments to reconcile net (loss) income to cash (used in) provided by operating activities:			
Loss on sale or disposal of assets	—	106	63
Depreciation and amortization	1,908	1,877	1,978
Amortization of debt issue costs and other assets	71	72	67
Share based compensation expense	322	400	232
Net (increase) decrease in assets:			
Accounts receivable	682	(529)	848
Inventories	(2,240)	(1,062)	(116)
Prepaid expenses and other assets	64	(139)	27
Net increase (decrease) in liabilities:			
Accounts payable	1,395	(139)	(334)
Accrued expenses	100	(121)	(417)
Customer deposits	493	13	2
Deferred rent and other liabilities	(46)	(13)	85
Net cash (used in) provided by operating activities	(847)	1,490	1,220
CASH FLOWS FROM INVESTING ACTIVITIES:			
Investment in equipment and leasehold improvements	(431)	(1,005)	(847)
Cash paid to acquire Cellana assets	(100)	—	—
Net cash used in investing activities	(531)	(1,005)	(847)
CASH FLOWS FROM FINANCING ACTIVITIES:			
Payments on short term contract obligation	(110)	—	—
Proceeds from short term notes payable	—	—	600
Net draws (payments) on line of credit	1,500	(111)	611
Payment of short term notes payable	—	—	(600)
Proceeds from long-term debt, net of costs	—	166	—
Principal payments on long-term debt	(576)	(538)	(503)
Payments on capitalized leases	(66)	(90)	(77)
Shares withheld for tax payments	(32)	—	(147)
Settlement agreement with former executive	—	—	(140)
Proceeds from issuance of common stock and exercise of stock options	108	75	50
Net cash provided by (used in) financing activities	824	(498)	(206)
Net (decrease) increase in cash	(554)	(13)	167
Cash and restricted cash at beginning of year	1,394	1,407	1,240
Cash and restricted cash at end of year	\$ 840	\$ 1,394	\$ 1,407
SUPPLEMENTAL DISCLOSURE OF CASH FLOW INFORMATION:			
Cash paid during the year for:			
Interest	\$ 380	\$ 413	\$ 431
Income taxes	\$ —	\$ —	\$ —
Non-cash financing activities:			
Purchase of Cellana assets	\$ 495	\$ —	\$ —
Less: Issuance of short-term obligation	(395)	—	—
Cash paid to acquire Cellana assets	\$ 100	\$ —	\$ —

See accompanying notes to consolidated financial statements

CYANOTECH CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. ORGANIZATION AND BASIS OF PRESENTATION

Cyanotech Corporation (the “Company”), located in Kailua-Kona, Hawaii, was incorporated in the state of Nevada on March 3, 1983 and is listed on the NASDAQ Global Select Market under the symbol “CYAN”. The Company is engaged in the production of natural products derived from microalgae for the nutritional supplements market.

The Company is an agricultural company that produces high value natural products derived from microalgae grown in complex and intricate open-pond agricultural systems on the Kona coast of Hawaii. The Company's products include Hawaiian Spirulina Pacifica, a superfood with numerous benefits, including boosting the immune system and overall cellular health; and Hawaiian BioAstin, a powerful antioxidant shown to support and maintain the body's natural inflammatory response.

The accompanying consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America. The accompanying consolidated financial statements include the accounts of Cyanotech Corporation and its wholly owned subsidiary, Nutrex Hawaii, Inc. (“Nutrex Hawaii” or “Nutrex”). Intercompany balances and transactions have been eliminated in consolidation.

Liquidity and Debt Covenant Compliance

As of March 31, 2019, the Company had cash of \$840,000 and working capital of \$5,104,000 compared to \$1,329,000 and \$7,910,000, respectively, at March 31, 2018. On August 30, 2016, the Revolving Credit Agreement (the Credit Agreement), which the Company and First Foundation Bank (the Bank) entered into on June 3, 2016, became effective. The Credit Agreement allows the Company to borrow up to \$2,000,000 on a revolving basis. At March 31, 2019, the Company had outstanding borrowings of \$2,000,000 on the line of credit. The line of credit is subject to renewal on August 30, 2019 and the Company intends to renew or replace it with another line of credit on or before the expiration date.

As of March 31, 2019, the Company had \$5,828,000 in long-term debt (Term Loans) payable to the Bank that require the payment of principal and interest monthly through August 2032. Pursuant to the terms of the Term Loans and the Credit Agreement, the Company is subject to annual financial covenants, customary affirmative and negative covenants and certain subjective acceleration clauses. As of March 31, 2019, the Company's debt service coverage ratio of -0.66:1 fell short of the Bank's annual requirement of 1.25:1. Additionally, on March 31, 2019, the Company's current ratio of 1.49:1 fell short of the Bank's annual requirement of 1.50:1. On June 17, 2019, the Bank provided the Company with a letter waiving the covenant violations as of March 31, 2019, but noting that the Bank reserved its rights to declare a default in the future if any covenants remain out of compliance at applicable measurement dates (Note 6).

In fiscal 2019, the Company experienced events that led to a reduction in sales and cash flows from operating activities, and a degradation of relationships with key vendors due to the Company's inability to pay these vendors on a timely basis. The most significant of these events was a necessary re-inoculation of its spirulina ponds in the first quarter of fiscal 2019, resulting in abnormally low spirulina production through August 2018. During this period, the Company drew \$1,250,000 on its line of credit to fund operations. In the fourth quarter of fiscal 2019, the Company experienced a sharp reduction in sales related the timing of customer orders and changes in its customers' inventory practices. To address the resulting cash flow shortage, the Company drew the remaining balance on its credit line in the fourth quarter of fiscal 2019. In April 2019, the Company obtained an unsecured loan of \$1,500,000 from Skywords Family Foundation, Inc., (Note 17) the proceeds of which were used to pay down accounts payable and for general operating capital purposes.

Funds generated by operating activities and available cash are expected to continue to be the Company's most significant sources of liquidity for working capital requirements, debt service and funding of maintenance levels of capital expenditures. In the first quarter of fiscal year 2020, the Company undertook strategic cost cutting, including the elimination of positions through attrition and the elimination of open positions to create a leaner organization. Given recent strong astaxanthin production and resulting high inventory levels, the Company also imposed a temporary reduction of astaxanthin production in order to eliminate variable production costs as inventory levels are reduced.

Based upon the Company's operating plan and related cash flow and financial projections, cash flows expected to be generated by operating activities and available financing are expected to be sufficient to fund the Company's operations through at least June 30, 2020, and the Company's debt service coverage ratio and current ratio covenants are expected to be in compliance with the annual Term Loans and Credit Agreement covenant requirements as of March 31, 2020, the next measurement date. However, no assurances can be provided that the Company will achieve its operating plan and cash flow projections for the next fiscal years or its projected consolidated financial position as of March 31, 2020. Such estimates are subject to change based on future results and such change could cause future results to vary significantly from expected results.

As indicated above, the Bank has waived the Company's violations of the debt service coverage ratio and current ratio covenant requirements as of March 31, 2019. However, in the event the Company violates any covenants as of future measurement dates, there is no assurance that the Bank will continue to waive such violations. If the Bank does not waive a future violation, it could pursue its remedies under the relevant agreements, including charging a higher interest rate on outstanding borrowings and calling for the repayment of outstanding borrowings. If this occurs, the Company would need to raise additional funds to repay the loans; however, the Company may not be able to secure such funding on acceptable terms, or at all.

2. SIGNIFICANT ACCOUNTING POLICIES

Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosures of any contingent assets and liabilities as of the date of the financial statements and the reported amounts of revenues and expenses during the periods reported. Management reviews these estimates and assumptions periodically and reflects the effect of revisions in the period that they are determined to be necessary. Actual results could differ from those estimates and assumptions.

Financial Instruments

The Company applies a framework for measuring fair value. That framework provides a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (level 1 measurements) and the lowest priority to unobservable inputs (level 3 measurements). The three levels of the fair value hierarchy are described below:

Level 1 — Inputs to the valuation methodology are unadjusted quoted prices for identical assets or liabilities in active markets that the Company has the ability to access.

Level 2 — Inputs to the valuation methodology include:

- Quoted prices for similar assets or liabilities in active markets;
- Quoted prices for identical or similar assets or liabilities in inactive markets;
- Inputs other than quoted prices that are observable for the asset or liability; and
- Inputs that are derived principally from or corroborated by observable market data by correlation or other means.

If the asset or liability has a specified (contractual) term, the Level 2 input must be observable for substantially the full term of the asset or liability.

Level 3 — Inputs to the valuation methodology are unobservable and significant to the fair value.

Cash, Restricted Cash, Accounts Receivable, Accounts Payable, Accrued Expenses and Customer Deposits - Due to the short-term nature of these instruments, management believes that the carrying amounts approximate fair value.

Line of Credit, Short-Term Contract Obligations and Long-Term Debt - The carrying amount of our line of credit and long-term debt approximates fair value as interest rates applied to the underlying debt are adjusted quarterly to market interest rates, which approximate current interest rates for similar debt instruments of comparable maturities. The carrying amount of our short-term contract obligation approximates fair value due to its short maturity.

Cash and Restricted Cash

Cash primarily consists of cash on hand and cash in bank deposits. Proceeds from equipment loans are classified as restricted cash until drawn upon.

The following table provides a reconciliation of cash and restricted cash reported within the Company's consolidated balance sheets to the total amount presented in the consolidated statement of cash flows:

	March 31, 2019	March 31, 2018
	(in thousands)	
Cash	\$ 1,329	\$ 1,407
Restricted cash	65	—
Cash and restricted cash at beginning of period	\$ 1,394	\$ 1,407
Cash	\$ 840	\$ 1,329
Restricted cash	—	65
Cash and restricted cash at end of period	\$ 840	\$ 1,394

Concentration Risk

The Company maintains its cash accounts in banks located in Hawaii, which are insured by the Federal Deposit Insurance Corporation (FDIC) up to \$250,000 per bank. The Company had cash balances at March 31, 2019 and 2018 that exceeded the balance insured by the FDIC by \$340,000 and \$829,000, respectively. A significant portion of revenues and accounts receivables are derived from a few major customers. For the year ended March 31, 2019, two customers accounted for 33% and 24% of our total net sales and for the year ended March 31, 2018, two customers accounted for 32% and 15% of our total net sales. For the year ended March 31, 2017, one customer accounted for 24% of our total net sales. Three customers accounted for 60% and 77% of the Company's accounts receivable balance as of March 31, 2019 and 2018, respectively.

The Company has recently been made aware of a possibility that Amazon, one of its major customers, may be changing its procurement practices. If these changes occur, it is possible that Amazon would no longer order products directly from the Company, but instead include the Company in the Amazon seller marketplace which would allow Amazon customers to purchase directly from the Company. It is unclear if and when these changes might occur and, if they do, what impact it would have on the Company's sales.

Accounts Receivable

Accounts receivable are recorded at the invoiced amount and do not accrue interest. Credit is extended based on evaluation of the customer's financial condition. Collateral is not required. The allowance for doubtful accounts reflects management's best estimate of probable credit losses inherent in the accounts receivable balance. Management determines the allowance based on historical experience, specifically identified nonpaying accounts and other currently available evidence. Management reviews its allowance for doubtful accounts monthly with a focus on significant individual past due balances over 90 days. All other balances are reviewed on a pooled basis. Account balances are charged off against the allowance after all means of collection have been exhausted and the potential for recovery is considered remote. The Company does not have any off-balance sheet credit exposure related to its customers or otherwise.

Inventories

Inventories are stated at the lower of cost or net realizable value. Cost is determined using the first-in, first-out (FIFO) method. Net realizable value is defined as estimated sales price less cost to dispose. Inventory costs include materials, labor, overhead and third party costs. Management provides a reserve against inventory for known or expected inventory obsolescence. The reserve is determined by specific review of inventory items for product age and quality which may affect salability.

The Company recognizes abnormal production costs, including fixed cost variances from normal production capacity, as an expense in the period incurred. Abnormal amounts of freight, handling costs and wasted material (spoilage) are recognized as current period charges and fixed production overhead costs are allocated to inventory based on the normal capacity of production facilities. Normal capacity is defined as "the production expected to be achieved over a number of periods or seasons under normal circumstances, taking into account the loss of capacity resulting from planned maintenance."

Equipment and Leasehold Improvements

Equipment and leasehold improvements are stated at cost. Depreciation and amortization are provided using the straight-line method over the estimated useful lives for equipment and furniture and fixtures, and the shorter of the land lease term (see Notes 4 and 8) or estimated useful lives for leasehold improvements as follows (in years):

Equipment	3 to 10
Furniture and fixtures	3 to 7
Leasehold improvements	10 to 25

Capital project costs are accumulated in construction-in-progress until completed, at which time the costs are transferred to the relevant asset and commence depreciation. Repairs and Maintenance costs are expensed in the period incurred. Repairs and maintenance that significantly increase the useful life or value of the asset are capitalized and depreciated over the remaining life of the asset. The Company capitalizes interest cost incurred on funds used to construct property, plant, and equipment. The capitalized interest is recorded as part of the asset to which it relates and is amortized over the asset's estimated useful life.

Impairment of Long-Lived Assets

Management reviews long-lived assets, such as equipment, leasehold improvements and purchased intangibles subject to amortization for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to the estimated undiscounted future cash flows expected to be generated by the asset. If the carrying amount of an asset exceeds its estimated future cash flows, an impairment charge is recognized to the extent that the carrying amount exceeds the asset's fair value. Assets to be disposed of and related liabilities would be separately presented in the consolidated balance sheet. Assets to be disposed of would be reported at the lower of the carrying value or fair value less costs to sell and would not be depreciated.

Accounting for Asset Retirement Obligations

Management evaluates quarterly the potential liability for asset retirement obligations under the Company's lease for its principal facility and corporate headquarters. No liability has been recognized as of March 31, 2019 and 2018 (see Note 8).

Revenue Recognition

The Company records revenue based on the five-step model which includes: (1) identifying the contract with the customer; (2) identifying the performance obligations in the contract; (3) determining the transaction price; (4) allocating the transaction price to the performance obligations; and (5) recognizing revenue when the performance obligations are satisfied. Substantially all of the Company's revenue is generated by fulfilling orders for the purchase of our micro algal nutritional supplements to retailers, wholesalers, or direct to consumers via online channels, with each order considered to be a distinct performance obligation. These orders may be formal purchase orders, verbal phone orders, e-mail orders or orders received online. Shipping and handling activities for which the Company is responsible under the terms and conditions of the order are not accounted for as performance obligations but as fulfillment costs. These activities are required to fulfill the Company's promise to transfer the goods and are expensed when revenue is recognized. The impact of this policy election is insignificant as it aligns with our current practice.

Revenue is measured as the net amount of consideration expected to be received in exchange for fulfilling a performance obligation. The Company has elected to exclude sales, use and similar taxes from the measurement of the transaction price. The impact of this policy election is insignificant, as it aligns with our current practice. The amount of consideration expected to be received and revenue recognized includes estimates of variable consideration, which includes costs for trade promotion programs, coupons, returns and early payment discounts. Such estimates are calculated using historical averages adjusted for any expected changes due to current business conditions and experience. The Company reviews and updates these estimates at the end of each reporting period and the impact of any adjustments are recognized in the period the adjustments are identified. In assessing whether collection of consideration from a customer is probable, the Company considers the customer's ability and intent to pay that amount of consideration when it is due. Payment of invoices is due as specified in the underlying customer agreement, typically 30 days from the invoice date, which occurs on the date of transfer of control of the products to the customer. Revenue is recognized at the point in time that control of the ordered products is transferred to the customer. Generally, this occurs when the product is delivered, or in some cases, picked up from one of our distribution centers by the customer. Revenue from extraction services is recognized when control is transferred upon completion of the extraction process.

Customer contract liabilities consist of customer deposits received in advance of fulfilling an order and are shown separately on the consolidated balance sheets. During the years ended March 31, 2019 and 2018, the Company recognized \$133,000 and \$119,000, respectively, of revenue from deposits that were included in contract liabilities as of March 31, 2018 and 2017, respectively. The Company's contracts have a duration of one year or less and therefore, the Company has elected the practical expedient of not disclosing revenues allocated to partially unsatisfied performance obligations.

Research and Development

Research and development costs are expensed as incurred and consist primarily of labor, benefits and outside research.

Advertising

Advertising costs are expensed as incurred. Total advertising expense for the years ended March 31, 2019, 2018 and 2017 was \$ 2,413,000, \$1,548,000, and \$813,000, respectively.

Income Taxes

Income taxes are accounted for under the asset and liability method. The asset and liability method requires the recognition of deferred tax assets and liabilities for the expected future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their tax bases and operating loss and tax credit carry forwards. Deferred tax assets and liabilities are measured using income tax rates applicable to the period in which the tax difference is expected to reverse.

Judgment is required in determining any valuation allowance recorded against deferred tax assets, specifically net operating loss carryforwards, tax credit carryforwards and deductible temporary differences that may reduce taxable income in future periods. In assessing the need for a valuation allowance, the Company considers all available evidence including past operating results, estimates of future taxable income and tax planning opportunities. In the event the Company changes its determination as to the amount of deferred tax assets that can be realized, it will adjust its valuation allowance with a corresponding impact to income tax expense in the period in which such determination is made.

In evaluating a tax position for recognition, management evaluates whether it is more-likely-than-not that a position will be sustained upon examination, including resolution of related appeals or litigation processes, based on the technical merits of the position. If the tax position meets the more-likely-than-not recognition threshold, the tax position is measured and recognized in the Company's financial statements as the largest amount of tax benefit that, in management's judgment, is greater than 50% likely of being realized upon settlement. As of March 31, 2019 and 2018, there was no liability for income tax associated with unrecognized tax benefits.

The Company recognizes accrued interest related to unrecognized tax benefits as well as any related penalties in interest expense in its consolidated statements of operations. As of the date of adoption and during the years ended March 31, 2019 and 2018, there was no accrual for the payment of interest and penalties related to uncertain tax positions.

Share-Based Compensation

The Company accounts for share-based payment arrangements using fair value. The Company currently has no liability-classified awards. Equity-classified awards, including grants of restricted stock, restricted stock units and employee stock options, are measured at the grant-date fair value of the award and are not subsequently remeasured unless an award is modified. The cost of equity-classified awards is recognized in the statement of operations over the period during which an employee is required to provide the service in exchange for the award, or the vesting period. All of the Company's restricted stock, restricted stock units and stock options are service-based awards, and considered equity-classified awards; as such, they are reflected in Equity and Stock Compensation Expense accounts. All stock-based compensation has been classified as general and administrative expense in the consolidated statement of operations.

The Company utilizes the Black-Scholes option pricing model to determine the fair value of each option award. Expected volatilities are based on the historical volatility of the Company's common stock over a period consistent with that of the expected term of the options. The expected term of the options is estimated based on factors such as vesting periods, contractual expiration dates and historical exercise behavior. The risk-free rates for periods within the contractual life of the options are based on the yields of U.S. Treasury instruments with terms comparable to the estimated option terms.

Per Share Amounts

Basic earnings (loss) per common share is calculated by dividing net income (loss) for the year by the weighted average number of common shares outstanding during the year. Diluted earnings per common share is calculated by dividing net income for the year by the sum of the weighted average number of common shares outstanding during the year plus the number of potentially dilutive common shares ("dilutive securities") that were outstanding during the year. Dilutive securities include restricted stock units and stock options granted pursuant to the Company's stock option plans. Dilutive securities related to the Company's stock option plans are included in the calculation of diluted earnings per common share using the treasury stock method. Potentially dilutive securities are excluded from the computation of earnings per share in periods in which a net loss is reported, as their effect would be antidilutive. A reconciliation of the numerators and denominators of the basic and diluted income (loss) per common share calculations for the years ended March 31, 2019, 2018 and 2017 is presented in Note 12.

Reclassifications

Certain amounts previously reported in the fiscal 2018 consolidated financial statements have been reclassified to conform with the fiscal 2019 financial presentation. These reclassifications have no impact on net (loss) income.

Recently Adopted Accounting Pronouncements

In May 2017, the Financial Accounting Standards Board (“FASB”) issued Accounting Standards Update (“ASU”) 2017-09, *Compensation-Stock Compensation (Topic 718) Scope of Modification Accounting* (“ASU No. 2017-09”). ASU No. 2017-09 will clarify and reduce both (i) diversity in practice and (ii) cost and complexity when applying the guidance in Topic 718, to a change to the terms and conditions of a share-based payment award. This guidance became effective for fiscal years beginning after December 15, 2017 and interim periods within those fiscal years. The amendments in ASU No. 2017-09 are applied prospectively to awards modified on or after the adoption date. The Company adopted this standard as of April 1, 2018 with no impact on its consolidated financial statements.

In November 2016, the FASB issued ASU 2016-18, *Statement of Cash Flows (Topic 230): Restricted Cash* (“ASU No. 2016-18”). This update addresses the fact that diversity exists in the classification and presentation of changes in restricted cash on the statement of cash flows under Topic 230, *Statement of Cash Flows*. ASU No. 2016-18 became effective for public companies for the fiscal years beginning after December 15, 2017, and interim periods within those fiscal years. The Company adopted this standard as of April 1, 2018 by using the retrospective method, which required reclassification of restricted cash in the accompanying consolidated statement of cash flows as of the beginning of the fiscal year ended March 31, 2017.

In August 2016, FASB issued ASU 2016-15, *Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments* (“ASU No. 2016-15”). ASU No. 2016-15 clarifies and provides specific guidance on eight cash flow classification issues that are not currently addressed by current GAAP and thereby reduces the current diversity in practice. ASU No. 2016-15 is effective for public business entities for annual periods, including interim periods within those annual periods, beginning after December 15, 2017. The Company adopted this standard as of April 1, 2018 with no impact on its consolidated financial statements and related disclosures.

In May 2014, the FASB issued their converged standard on revenue recognition, Accounting Standards Update No. 2014-09, *Revenue from Contracts with Customers (Topic 606)* (“ASU No. 2014-09”), updated in December 2016 with the release of ASU 2016-20. This standard outlines a single comprehensive model for companies to use in accounting for revenue arising from contracts with customers and supersedes most current revenue recognition guidance, including industry-specific guidance. The core principle of the revenue model is that an entity recognizes revenue to depict the transfer of promised goods and services in an amount that reflects the consideration to which the entity expects to be entitled to in exchange for those goods and services. In addition, the new standard requires that reporting companies disclose the nature, amount, timing, and uncertainty of revenue and cash flows arising from contracts with customers. In August 2015, the FASB issued ASU No 2015-14 *Revenue from Contracts with Customers (Topic 606): Deferral of the Effective Date*, which deferred the effective date of ASU No. 2014-09 to annual reporting periods beginning after December 15, 2017.

The new revenue standard is required to be applied either retrospectively to each prior reporting period presented or prospectively with the cumulative effect of initially applying the standard recognized at the date of the initial application, supplemented with certain disclosures related to the effect of adoption on previously reported amounts, if any (the modified retrospective method). The Company adopted the standard on April 1, 2018 for contracts that were not completed before the adoption date, using the modified retrospective method. The Company has evaluated the effect of the standard and concluded it is not material to the timing or amount of revenues or expenses recognized in the Company’s historical consolidated financial statements. As a result, the Company has concluded that the application of the standard does not have a material effect that requires a retrospective adjustment to any previously reported amounts in the Company’s historical consolidated financial statements for reporting disclosure purposes.

Recently Issued Accounting Pronouncements

In November 2018, the FASB issued ASU 2018-18 – *Collaborative Arrangements*, which clarifies that certain transactions between collaborative arrangement participants should be accounted for as revenue when the collaborative arrangement participant is a customer in the context of a unit of account and precludes recognizing as revenue consideration received from a collaborative arrangement participant if the participant is not a customer. This ASU will be effective for us in the first quarter of fiscal year 2021 with early adoption permitted. This ASU requires retrospective adoption to the date the Company adopted ASC 606, April 1, 2018, by recognizing a cumulative-effect adjustment to the opening balance of retained earnings of the earliest annual period presented. The Company is currently evaluating the impact of the adoption of this standard on its financial statements.

In August 2018, the FASB issued ASU 2018-15, *Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract* ("ASU No. 2018-15"), which aligns the capitalization requirements for implementation costs incurred in a hosting arrangement that is a service contract with the existing capitalization requirements for implementation costs incurred to develop or obtain internal-use software (*Subtopic 350-40*). ASU 2018-15 becomes effective for the Company in the first quarter of fiscal year 2021 and may be adopted either retrospectively or prospectively. Early adoption is permitted. The Company is currently evaluating the impact of the adoption of this standard on its financial statements.

In August 2018, the FASB issued ASU 2018-13, *Fair Value Measurement - Disclosure Framework (Topic 820)* ("ASU No. 2018-13"). The updated guidance improves the disclosure requirements on fair value measurements. The updated becomes effective for the Company in the first quarter of fiscal year 2021. Early adoption is permitted for any removed or modified disclosures. The Company is currently assessing the timing and impact of adopting the updated provisions.

In June 2018, the FASB issued ASU 2018-07, *Compensation - Stock Compensation (Topic 718)* ("ASU No. 2018-07"): Improvements to Nonemployee Share-Based Payment Accounting. ASU No. 2018-07 expands the scope of Topic 718 to include share-based payment transactions for acquiring goods and services from non-employees, and as a result, the accounting for share-based payments to non-employees will be substantially aligned. ASU No. 2018-07 becomes effective for the Company in the first quarter of fiscal year 2020. Early adoption is permitted but no earlier than an entity's adoption date of Topic 606. The Company does not expect this guidance to have an impact on its consolidated results of operations.

In February 2016, the FASB issued ASU 2016-02, *Leases (Topic 842): Accounting for Leases* and issued subsequent amendments to the initial guidance and implementation guidance including ASU 2018-01, 2018-10, 2018-11, 2018-20 and 2019-01 (collectively including ASU 2016-02, "ASC 842"). ASC 842 requires that lessees recognize right-of-use assets and lease liabilities that are measured at the present value of the future lease payments at lease commencement date. The recognition, measurement, and presentation of expenses and cash flows arising from a lease by a lessee will largely remain unchanged and shall continue to depend on its classification as a finance or operating lease. The Company has performed a comprehensive review in order to determine what changes were required to support the adoption of this new standard. The Company will adopt ASC 842 on April 1, 2019 and expects to elect certain practical expedients permitted under the transition guidance. It will elect the optional transition method that allows for a cumulative-effect adjustment in the period of adoption and will not restate prior periods. Under the new guidance, the majority of its leases will continue to be classified as operating. During the first quarter of fiscal year 2020, the Company will complete its implementation of its processes and policies to support the new lease accounting and reporting requirements. Based on its lease portfolio as of April 1, 2019, the Company preliminarily estimates the impact of adoption ASC 842 to increase both total assets and total liabilities in the range of \$4.0 million to \$4.5 million. The adoption of ASC 842 is not expected to have a significant impact on its consolidated statements of operations or cash flows in fiscal year 2020 or thereafter. The Company continues to finalize the implementation of the new processes and the assessment of the impact of this adoption on its consolidated financial statements; therefore, the preliminary estimated impacts disclosed can change, and the final impact will be known once the adoption is completed during the first quarter of fiscal year 2020.

3. INVENTORIES

Inventories consist of the following as of March 31, 2019 and 2018:

	2019	2018
	(in thousands)	
Raw materials	\$ 495	\$ 410
Work in process	4,032	2,602
Finished goods	6,587	5,878
Supplies	160	144
Inventories, net	<u>\$ 11,274</u>	<u>\$ 9,034</u>

The Company recognizes abnormal production costs, including fixed cost variances from normal production capacity, as an expense in the period incurred. The Company expensed abnormal production costs of \$250,000, \$538,000 and \$120,000 to cost of sales for the fiscal years ended March 31, 2019, 2018 and 2017, respectively. Non-inventoriable fixed costs of \$176,000, \$271,000 and \$134,000 were expensed to cost of sales for the fiscal years ended March 31, 2019, 2018 and 2017, respectively.

4. EQUIPMENT AND LEASEHOLD IMPROVEMENTS

Equipment and leasehold improvements consists of the following as of March 31, 2019 and 2018:

	2019	2018
	(in thousands)	(in thousands)
Equipment	\$ 18,679	\$ 17,935
Leasehold improvements	14,723	14,248
Furniture and fixtures	348	348
	33,750	32,531
Less accumulated depreciation and amortization	(19,254)	(17,346)
Construction in-progress	256	549
Equipment and leasehold improvements, net	\$ 14,752	\$ 15,734

Management has determined no asset impairment existed as of March 31, 2019 and March 31, 2018, respectively.

Depreciation and amortization expense was approximately \$1,908,000, \$1,877,000 and \$1,978,000 for the years ended March 31, 2019, 2018 and 2017, respectively.

5. SHORT-TERM CONTRACT OBLIGATIONS

On November 30, 2018, the Company completed the purchase of a six-acre production and research facility from Cellana LLC (“Cellana”) under a purchase agreement that was signed August 31, 2018. In accordance with the terms of the third amendment to the asset purchase agreement, the Company acquired the assets for \$495,000 with a cash down payment of \$100,000 leaving a short-term obligation of \$395,000.

The short-term obligation is comprised of two separate loans. The first loan has a principal amount of \$180,000, bears an interest rate of 6.25% and is payable in four monthly installments which includes principal and interest. The loan commenced on December 1, 2018 and initially matured on March 31, 2019, but was extended to July 15, 2019. The principal amount outstanding at March 31, 2019 was \$137,000.

The second loan has a principal amount of \$215,000 and is a non-interest bearing loan that is payable in twelve monthly installments comprised of two monthly payments of \$10,000 and ten monthly payments of \$19,543. The loan commenced on December 1, 2018 and matures on October 15, 2019. This contract contains a hold back of \$38,000 pending resolution of certain closing items by the seller. The principal amount outstanding at March 31, 2019 was \$148,000.

6. LINE OF CREDIT AND LONG-TERM DEBT

Total debt consists of the following at March 31, 2019 and 2018 as follows:

	2019	2018
	(in thousands)	(in thousands)
Line of credit	\$ 2,000	\$ 500
Long-term debt	6,035	6,678
Less current maturities	(2,663)	(1,155)
Long-term debt, excluding current maturities	5,372	6,023
Less unamortized debt issuance costs	(200)	(233)
Total long-term debt, net of current maturities and unamortized debt issuance costs	\$ 5,172	\$ 5,790

Line of Credit and Term Loans

On August 30, 2016, the Credit Agreement, which the Company and the Bank entered into on June 3, 2016, became effective after the Company and the Bank received the necessary approvals from the State of Hawaii to secure the lien on the Company’s leasehold property in Kona, Hawaii. The Credit Agreement allows the Company to borrow up to \$2,000,000 on a revolving basis. Borrowings under the Credit Agreement bear interest at the Wall Street Journal prime rate (5.50% at March 31, 2019 and 4.75% at March 31, 2018) + 2%.

At March 31, 2019 and 2018, the outstanding balances under the Credit Agreement were \$2,000,000 and \$500,000, respectively. The line of credit, which is subject to annual renewal, was renewed on August 30, 2018 and will be subject to renewal upon expiration on August 30, 2019. Pursuant to the August 30, 2018 renewal, the current ratio covenant was changed from 2.10:1 to 1.50:1 and is applicable to both the line of credit and term loans with the Bank.

The Credit Agreement grants the Bank the following security interests in the Company's property: (a) a lien on the Company's leasehold interest in its Kona facility; (b) an assignment of the Company's interest in leases and rents on its Kona facility; and (c) a security interest in all fixtures, furnishings and equipment related to or used by the Company at the Kona facility. Each security interest is further subject to the terms of the Credit Agreement.

In 2015, the Company executed a loan agreement with a lender providing for \$2,500,000 in aggregate credit facilities (the "2015 Loan") secured by substantially all the Company's assets, pursuant to a Term Loan Agreement dated July 30, 2015 (the "2015 Loan Agreement"). The 2015 Loan is evidenced by a promissory note in the amount of \$2,500,000, the repayment of which is partially guaranteed under the provisions of a United States Department of Agriculture ("USDA") Rural Development Guarantee program. The proceeds of the 2015 Loan were used to pay off a \$500,000 short term note payable that matured on September 18, 2015, and to acquire new processing equipment and leasehold improvements at the Company's Kona, Hawaii facility.

The provisions of the 2015 Loan require the payment of principal and interest until its maturity on September 1, 2022, the obligation fully amortizes over seven (7) years. Interest on the 2015 Loan accrues on the outstanding principal balance at an annual variable rate equal to the published Wall Street Journal prime rate (5.5% at March 31, 2019) plus 2.0% and is adjustable on the first day of each calendar quarter and fixed for that quarter. At no time shall the annual interest rate be less than 6.0%. The 2015 Loan has a prepayment penalty of 5.0% for any prepayment made prior to the first anniversary of the date of the 2015 Loan Agreement, which penalty is reduced by 1.0% each year thereafter until the fifth anniversary of such date, after which there is no prepayment penalty. The balance under the 2015 Loan was \$1,389,000 and \$1,726,000 at March 31, 2019 and 2018, respectively.

The 2015 Loan includes a one-time origination and guaranty fee totaling \$113,900 and an annual renewal fee payable in the amount of 0.5% of the USDA guaranteed portion of the outstanding principal balance as of December 31 of each year, beginning December 31, 2015. The USDA has guaranteed 80% of all amounts owing under the 2015 Loan.

In 2012, the Company executed a loan agreement with a lender providing for \$5,500,000 in aggregate credit facilities (the "2012 Loan") secured by substantially all the Company's assets, including a mortgage on the Company's interest in its lease at the National Energy Laboratory of Hawaii Authority, pursuant to a Term Loan Agreement dated August 14, 2012 (the "2012 Loan Agreement"). The 2012 Loan is evidenced by promissory notes in the amounts of \$2,250,000 and \$3,250,000, the repayment of which is partially guaranteed under the provisions of a USDA Rural Development Guarantee. The proceeds of the 2012 Loan were used to acquire processing equipment and leasehold improvements at its Kona, Hawaii facility.

The provisions of the 2012 Loan required the payment of interest only for the first 12 months of the term; thereafter, and until its maturity on August 14, 2032, the obligation fully amortizes over nineteen (19) years. Interest on the 2012 Loan accrues on the outstanding principal balance at an annual variable rate equal to the published Wall Street Journal prime rate (5.5% at March 31, 2019) plus 1.0% and is adjustable on the first day of each calendar quarter and fixed for that quarter. At no time shall the annual interest rate be less than 5.5%. The balance under the 2012 Loan was \$4,439,000 and \$4,648,000 at March 31, 2019 and 2018, respectively.

The 2012 Loan included a one-time origination and guaranty fees totaling \$214,500 and an annual renewal fee payable in the amount of 0.25% of the USDA guaranteed portion of the outstanding principal balance as of December 31 of each year, beginning December 31, 2012. The USDA has guaranteed 80% of all amounts owing under the 2012 Loan.

Loan Covenant Violations and Waiver

The Company's Credit Agreement, 2015 Loan and 2012 Loan are subject to annual debt service and other financial covenants, including covenants which require the Company to meet key financial ratios and customary affirmative and negative covenants. As of March 31, 2019, the Company was not in compliance with the required debt service coverage ratio or the current ratio. Due to these violations, the Bank would be contractually entitled to require immediate repayment of the outstanding term loan amounts of \$5,828,000 and the outstanding line of credit balance of \$2,000,000. However, on June 17, 2019, the bank issued the Company a letter waiving the covenant violations as of March 31, 2019. The outstanding balance of the terms loans is presented as a non-current liability at March 31, 2019.

Equipment Finance Agreement

On October 6, 2017, the Company entered into an Equipment Finance Agreement (the "Equipment Agreement") with a lender, which provides up to \$175,000 of financing for equipment. The interest rate on this loan is 4.75%. The provisions of the Equipment Agreement require the payment of principal and interest until its maturity on October 31, 2022, the obligation fully amortizes over five (5) years. The balance under this loan was \$126,000 and \$156,000 at March 31, 2019 and 2018, respectively.

Capital Lease Obligations

In August 2016, the Company executed a capital lease agreement with Thermo Fisher Financial providing for \$52,000 in equipment, secured by the equipment financed. The capital lease matures in May 2019 and is payable in 36 equal monthly payments. The interest rate under this capital lease is 12.90%. The balance under this lease was \$7,800 and \$28,000 at March 31, 2019 and 2018, respectively.

In February 2016, the Company executed a capital lease agreement with Bank of the West providing for \$51,000 in equipment, secured by the equipment financed. The capital lease matures in March 2021 and is payable in 60 equal monthly payments. The interest rate under this capital lease is 4.18%. The balance under this lease was \$22,000 and \$32,000 at March 31, 2019 and 2018, respectively.

In July 2015, the Company executed a capital lease agreement with Huntington Technology Finance providing for \$174,000 in equipment, secured by the equipment financed. The capital lease matures in July 2020 and is payable in 60 equal monthly payments. The interest rate under this capital lease is 6.57%. The balance under this lease was \$52,000 and \$88,000 at March 31, 2019 and 2018, respectively.

Future principal payments under the loans and capital lease obligations at March 31, 2019 are as follows:

Fiscal year ending March 31	(in thousands)
2020	\$ 663
2021	676
2022	698
2023	506
2024	278
Thereafter	3,214
Total principal payments	\$ 6,035

7. ACCRUED EXPENSES

Components of accrued expenses as of March 31, 2019 and 2018 are as follows:

	2019	2018
	(in thousands)	
Wages, commissions, bonus and profit sharing	\$ 483	\$ 707
Rent, interest and legal	235	69
Other accrued expenses	274	116
Total accrued expenses	\$ 992	\$ 892

8. OPERATING LEASES

The Company's principal facility and its corporate headquarters are located at the Natural Energy Laboratory of Hawaii Authority ("NELHA") at Keahole Point in Kailua-Kona, Hawaii. The Company leases two properties from the State of Hawaii under a 40-year commercial lease expiring in 2035 and a 19-year commercial lease expiring in 2037. Under the terms of the existing NELHA leases, the Company could be required to remove improvements at the end of the lease term. Under generally accepted accounting principles in the United States, an entity should recognize the fair value of a liability for an asset retirement obligation in the period in which the retirement obligation is incurred, if a reasonable estimate of fair value can be made. If such an estimate cannot be made in the period the asset retirement obligation is incurred, the liability should be recognized when the fair value can be reasonably estimated. Based on communications with NELHA, management does not believe the projected cost for such removal to be material to the consolidated financial statements, or likely, given historical practices. However, conditions could change in the future. It is not possible to predict such changes or estimate any impact thereof.

The Company leases facilities, equipment and land under operating leases expiring through 2037. The land lease provides for contingent rentals in excess of minimum rental commitments based on a percentage of the Company's sales. Contingent rental payments for the years ended March 31, 2019, 2018 and 2017 were \$54,000, \$49,000 and \$80,000, respectively.

Future minimum lease payments under non-cancelable operating leases at March 31, 2019 are as follows:

Year ending March 31	(in thousands)
2020	\$ 567
2021	573
2022	572
2023	493
2024	336
Thereafter	4,028
Total minimum lease payments	<u>\$ 6,569</u>

Rent expense, including contingent rent, under operating leases amounted to \$588,000, \$578,000 and \$605,000 for the years ended March 31, 2019, 2018 and 2017, respectively.

9. OTHER COMMITMENTS AND CONTINGENCIES

From time to time, the Company may become party to lawsuits and claims that arise in the ordinary course of business relating to employment, intellectual property, and other matters. There were no significant legal matters outstanding at March 31, 2019.

As of March 31, 2019, the Company has entered into purchase obligations of \$951,000, including agreements to purchase goods or services that are enforceable, are legally binding and specify all significant terms, including fixed or minimum quantities to be purchased; fixed, minimum or variable price provisions; and the approximate timing of the transaction. Purchase obligations do not include agreements that are cancelable without penalty.

10. SHARE-BASED COMPENSATION

As of March 31, 2019, the Company had two equity-based compensation plans: the 2016 Equity Incentive Plan (the “2016 Plan”) and the 2014 Independent Director Stock Option and Restricted Stock Grant Plan (the “2014 Directors Plan”). The Company has also issued stock options, which remain outstanding as of March 31, 2019, under two equity-based compensation plans which have expired according to their terms: the 2005 Stock Option Plan (the “2005 Plan”) and the 2004 Independent Director Stock Option and Stock Grant Plan (the “2004 Directors Plan”). These plans allowed the Company to award stock options and shares of restricted common stock to eligible employees, certain outside consultants and independent directors. No additional awards will be issued under the 2005 Plan or the 2004 Directors Plan.

On August 25, 2016, the Company’s shareholders approved the 2016 Plan as a successor to the 2005 Plan, authorizing the Board of Directors to provide incentive to the Company’s officers, employees and certain independent consultants through equity based compensation in the form of stock options, restricted stock, restricted stock units, stock appreciation rights and other stock based awards (together, “Stock Awards”) and performance shares and performance units (together, “Performance Awards”). Awards under the 2016 Plan are limited to the authorized amount of 1,300,000 shares, up to 600,000 of which are available for issuance in connection with Performance Awards and Stock Awards. As of March 31, 2019, there were 1,066,850 shares available for grant under the 2016 Plan.

On August 28, 2014, the Company’s shareholders approved the 2014 Directors Plan authorizing the Board of Directors to provide incentive to the Company’s independent directors through equity based compensation in the form of stock options and restricted stock. Awards under the 2014 Directors Plan are limited to the authorized amount of 350,000 shares. As of March 31, 2019, there were 184,400 shares available for grant under the 2014 Directors Plan.

The following table presents shares authorized, available for future grant and outstanding under each of the Company’s plans:

	As of March 31, 2019		
	Authorized	Available	Outstanding
2016 Plan	1,300,000	1,066,850	208,814
2014 Directors Plan	350,000	184,400	116,724
2005 Plan	—	—	345,800
2004 Directors Plan	—	—	12,000
Total	<u>1,650,000</u>	<u>1,251,250</u>	<u>683,338</u>

Stock Options

All stock option grants made under the equity-based compensation plans were issued at exercise prices no less than the Company's closing stock price on the date of grant. Options under the 2016 Plan, 2005 Plan and 2014 Directors Plan were determined by the Board of Directors or the Compensation Committee of the Board of Directors in accordance with the provisions of the respective plans. The terms of each option grant include vesting, exercise, and other conditions are set forth in a Stock Option Agreement evidencing each grant. No option can have a life in excess of ten (10) years. The Company records compensation expense for employee stock options based on the estimated fair value of the options on the date of grant using the Black-Scholes option-pricing model. The model requires various assumptions, including a risk-free interest rate, the expected term of the options, the expected stock price volatility over the expected term of the options, and the expected dividend yield. Compensation expense for employee stock options is recognized ratably over the vesting term. Compensation expense recognized for options issued under the Plans was \$77,000, \$62,000 and \$154,000 for the years ended March 31, 2019, 2018 and 2017, respectively.

A summary of option activity under the Company's stock plans for the years ended March 31, 2019, 2018 and 2017 is presented below:

Option Activity	Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value
Outstanding at March 31, 2016	685,000	\$ 4.65	5.7	\$ 566,323
Granted	6,000	4.08		
Exercised	(18,000)	2.77		
Forfeited	(170,000)	6.44		
Outstanding at March 31, 2017	503,000	\$ 4.10	4.7	\$ 145,946
Granted	120,000	3.53		
Exercised	(29,150)	2.59		
Forfeited	(3,700)	4.50		
Expired	(750)	1.60		
Outstanding at March 31, 2018	589,400	\$ 4.06	4.9	\$ 675,300
Granted	50,000	3.00		
Exercised	(49,600)	2.17		
Forfeited	(50,000)	4.82		
Outstanding at March 31, 2019	539,800	\$ 4.06	4.7	\$ 15,480
Exercisable at March 31, 2019	409,800	\$ 4.30	3.4	\$ 3,480

The aggregate intrinsic value in the table above is before applicable income taxes and represents the excess amount over the exercise price optionees would have received if all options had been exercised on the last business day of the period indicated, based on the Company's closing stock price of \$3.24, \$5.10, \$3.85 and \$4.98 at March 31, 2019, 2018, 2017 and 2016, respectively. The total intrinsic value of stock options exercised during fiscal years 2019, 2018 and 2017 were \$77,000, \$67,000 and \$23,000, respectively.

A summary of the Company's non-vested options for the year ended March 31, 2019 is presented below:

Nonvested Options	Shares	Weighted Average Grant-Date Fair Value
Nonvested at March 31, 2018	120,000	\$ 1.81
Granted	50,000	1.52
Vested	(40,000)	1.80
Nonvested at March 31, 2019	130,000	\$ 1.70

The weighted average grant-date fair value of stock options granted during fiscal years 2019, 2018 and 2017 was \$76,000, \$67,000 and \$5,000, respectively. The total grant-date fair values of stock options that vested during fiscal years 2019, 2018 and 2017 were \$72,000, \$57,000 and \$332,000, respectively.

The following table summarizes the weighted average characteristics of outstanding stock options as of March 31, 2019:

Range of Exercise Prices	Outstanding Options			Exercisable Options	
	Number of Shares	Remaining Life (Years)	Weighted Average Exercise Price	Number of Shares	Weighted Average Exercise Price
\$2.08 - \$3.47	128,000	8.7	\$ 3.18	28,000	\$ 3.21
\$3.48 - \$3.70	45,200	2.3	\$ 3.58	45,200	\$ 3.58
\$3.71 - \$3.82	188,100	2.4	\$ 3.82	188,100	\$ 3.82
\$3.83 - \$5.91	178,500	4.9	\$ 5.08	148,500	\$ 5.30
Total stock options	539,800	4.7	\$ 4.06	409,800	\$ 4.30

The range of fair value assumptions related to options granted during the years ended March 31, 2019, 2018 and 2017 were as follows:

	2019	2018	2017
Exercise Price	\$ 3.00	\$ 3.83	\$ 4.08
Volatility	49.94%	51.91%	51.13%
Risk Free Rate	2.40%	2.50%	0.60%
Vesting Period (in years)	4.0	3.0	0.5
Forfeiture Rate	0%	0.00%	0.00%
Expected Life (in years)	6.30	6.00	1.00
Dividend Rate	0%	0%	0%

As of March 31, 2019, total unrecognized stock-based compensation expense related to all unvested stock options was \$180,400, which is expected to be expensed over a weighted average period of 2.3 years.

Restricted Stock

Grants of fully vested restricted stock issued to Non-Employee Directors was 47,223, 57,501 and 19,117 shares for the three years ended March 31, 2019, 2018 and 2017, respectively. Compensation expense recognized for fully vested restricted stock grants issued under the 2014 Directors Plan was \$170,000, \$276,000 and \$78,000 for the three years ended March 31, 2019, 2018 and 2017, respectively.

Restricted Stock Units ("RSUs")

RSUs are service-based awards granted to eligible employees under our 2016 Plan. Compensation expense recognized for RSUs issued under the 2016 Plan was \$75,000, \$62,000 and \$0 for the years ended March 31, 2019, 2018 and 2017, respectively.

The following table summarizes information related to awarded RSUs:

Nonvested Restricted Stock Units	Shares	Weighted Average Grant Price
Nonvested Restricted stock units at March 31, 2016	—	—
Granted	25,000	\$ 3.85
Nonvested restricted stock units at March 31, 2017	25,000	\$ 3.85
Granted	28,074	\$ 3.92
Vested	(8,333)	\$ 3.85
Forfeited	(5,066)	\$ 3.92
Nonvested restricted stock units at March 31, 2018	39,675	\$ 3.89
Granted	23,923	\$ 4.10
Vested	(16,003)	\$ 3.88
Forfeited	(8,781)	\$ 4.07
Nonvested restricted stock units at March 31, 2019	38,814	\$ 3.98

As of March 31, 2019, total unrecognized stock-based compensation expense related to unvested restricted stock units was \$108,984.

On April 5, 2019, 561 RSUs were awarded to employees of the Company. This award is valued at \$3.22 per share, the closing market price of Cyanotech common stock on the grant date, and vests over a period of one year.

11. COMMON AND PREFERRED STOCK

The Company has authorized a total of sixty million shares of which fifty million shares are authorized common stock and ten million shares are authorized preferred stock. None of the preferred stock was issued or outstanding at March 31, 2019 and 2018. Under the terms of the Company's Amended and Restated Articles of Incorporation, the Board of Directors is authorized to determine or alter the rights, preferences, privileges and restrictions of the Company's authorized but unissued shares of preferred stock.

12. (LOSS) EARNINGS PER SHARE

Basic earnings (loss) per share is computed on the basis of the weighted average number of common shares outstanding. Diluted earnings per share is computed on the basis of the weighted average number of common shares outstanding plus the potentially dilutive effect of outstanding stock options using the treasury stock method.

Reconciliations between the numerator and the denominator of the basic and diluted income (loss) per share computations for the years ended March 31, 2019, 2018 and 2017 are as follows:

	Net Income (loss) (Numerator)	Shares (Denominator)	Per Share Amount
	(in thousands, except per share amounts)		
Year ended March 31, 2019:			
Basic and diluted loss per share	\$ (3,596)	5,819	\$ (0.62)
Year ended March 31, 2018:			
Basic income per share	\$ 1,025	5,709	\$ 0.18
Effective dilutive securities—Common stock options	—	72	—
Diluted income per share	\$ 1,025	5,781	\$ 0.18
Year ended March 31, 2017:			
Basic and diluted loss per share	\$ (1,215)	5,658	\$ (0.21)

Basic and diluted per share amounts are the same in periods of a net loss, because common share equivalents are anti-dilutive when a net loss is recorded. Diluted earnings per share does not include the impact of common stock options totaling 50,000, and 6,000 for the fiscal years ending March 31, 2019 and 2017, respectively, as the effect of their inclusion would be anti-dilutive. Restricted stock units become dilutive within the period granted and remain dilutive until the units vest and are issued as common stock. Diluted earnings per share does not include the impact of restricted stock units totaling 38,814, 39,675 and 25,000 for the fiscal years ending March 31, 2019, 2018 and 2017, respectively, as the effect of their inclusion would be anti-dilutive.

13. PROFIT SHARING AND 401K PLAN

The Company sponsors a profit sharing plan for all employees not covered under a separate management incentive plan. Under the profit sharing plan, a percentage determined by the Board of Directors of pre-tax profits on a quarterly basis may be allocated to non-management employees at management's discretion. The profit sharing bonus may be distributed all in cash on an after-tax basis or distributed half in cash (on an after-tax basis) and the remainder deposited in an employee's 401(k) account on a pre-tax basis. Employees may also make voluntary pre-tax contributions to their 401(k) accounts. Compensation expense under this plan was approximately \$9,100, \$91,000 and \$4,000 for the fiscal years ended March 31, 2019, 2018 and 2017, respectively. Additionally, the Company makes a retirement contribution to all employees individual 401(k) accounts equal to two percent of each employee's base pay for each bi-weekly pay period on a pre-tax basis. Retirement expense under this plan was approximately \$116,000, \$117,000 and \$139,000 for fiscal years ended March 31, 2019, 2018 and 2017, respectively.

14. PRODUCT LINE AND GEOGRAPHIC INFORMATION

Disaggregation of Revenue

The following table represents revenue disaggregated by major product line and extraction services for the years ended March 31, 2019, 2018 and 2017 (in thousands):

	2019	2018	2017
Packaged sales			
Astaxanthin packaged	\$ 18,792	\$ 20,560	\$ 18,367
Spirulina packaged	7,867	8,815	7,489
Total packaged sales	26,659	29,375	25,856
Bulk sales			
Astaxanthin bulk	966	1,090	990
Spirulina bulk	2,340	3,650	5,196
Total bulk sales	3,306	4,740	6,186
Contract extraction revenue	237	—	—
Total net sales	\$ 30,202	\$ 34,115	\$ 32,042

Net sales by geographic region for the years ended March 31, 2019, 2018 and 2017 are as follows:

	2019		2018		2017	
			(dollars in thousands)			
Net sales ⁽¹⁾ :						
United States	\$ 24,192	80%	\$ 26,348	77%	\$ 22,978	72%
Asia / Pacific	2,597	9%	3,238	9%	4,017	13%
Europe	2,316	8%	2,540	8%	3,652	11%
Other	1,097	3%	1,989	6%	1,395	4%
	\$ 30,202	100%	\$ 34,115	100%	\$ 32,042	100%

(1) Net sales are attributed to countries based on location of customer.

15. INCOME TAXES

Income tax benefit (expense) for the years ended March 31, 2019, 2018 and 2017 consisted of:

	2019	2018	2017
		(in thousands)	
Current:			
Federal	\$ 4	\$ 112	\$ (2)
State	(21)	(2)	(3)
Total current (expense) benefit	(17)	110	(5)
Deferred:			
Federal	—	—	—
State	—	—	—
Total deferred expense	—	—	—
Income tax (expense) benefit	\$ (17)	\$ 110	\$ (5)

On December 22, 2017 H.R. 1, originally known as the Tax Cuts and Jobs Act, (the “Tax Act”) was enacted. Among the significant changes to the U.S. Internal Revenue Code, the Tax Act lowers the U.S. federal corporate income tax rate (“Federal Tax Rate”) from 34% to 21% effective January 1, 2018. The Company computed its income tax expense for the March 31, 2018 fiscal year using a blended Federal Tax Rate of 30.79%. The 21% Federal Tax Rate applies to the fiscal year ended March 31, 2019 and each year thereafter.

On December 22, 2017, Staff Accounting Bulletin No. 118 ("SAB 118") was issued to address the application of US GAAP in situations when a registrant does not have the necessary information available, prepared, or analyzed (including computations) in reasonable detail to complete the accounting for certain income tax effects of the Tax Act. Upon enactment of the Tax Act, as a result of the rate reduction, the Company re-measured its net deferred tax assets and liabilities using the Federal Tax Rate that will apply when those amounts are expected to reverse, resulting in a write-down of \$1.2 million. Because there is a full valuation allowance against these assets, the valuation allowance was reduced accordingly and there was no effect on the provision (benefit) for income taxes. The Company has completed the accounting for the income tax effects of the Tax Act as of March 31, 2019 and has determined that the amount identified as provisional in the year ended March 31, 2018 was a materially correct amount. As a result, no measurement period adjustments have been recorded.

The following table reconciles the amount of income taxes computed at the federal rates of 21%, 30.79% and 34% for the years ended March 31, 2019, 2018 and 2017, respectively, to the amount reflected in the Company's consolidated statements of operations for the years ended March 31, 2019, 2018 and 2017:

	<u>2019</u>	<u>2018</u>	<u>2017</u>
		(in thousands)	
Tax provision at federal statutory income tax rate	\$ 752	\$ (282)	\$ 411
Stock based compensation	6	(11)	(281)
(Increase) decrease in valuation allowance	(1,015)	1,565	(158)
State income taxes benefit (expense), net of federal income tax effect	264	(36)	49
State rate adjustment	(30)	3	(1)
AMT Credit	4	112	—
Tax Cuts and Jobs Act	—	(1,244)	—
Other, net	1	3	(25)
Income tax (expense) benefit	<u>\$ (17)</u>	<u>\$ 110</u>	<u>\$ (5)</u>

The tax effects of temporary differences related to various assets, liabilities and carry forwards that give rise to deferred tax assets and deferred tax liabilities as of March 31, 2019, 2018 and 2017 are as follows:

	<u>2019</u>	<u>2018</u>	<u>2017</u>
		(in thousands)	
Deferred tax assets:			
Net operating loss carry forwards	\$ 3,611	\$ 2,903	\$ 4,325
Inventory	509	295	405
Compensation accrual	131	153	187
Tax credit carry forwards	28	36	147
Interest limitation	174	—	—
Other	27	22	40
Gross deferred tax assets	4,480	3,409	5,104
Less valuation allowance	(3,172)	(2,158)	(3,722)
Net deferred tax assets	1,308	1,251	1,382
Deferred tax liability- Depreciation and amortization	(1,308)	(1,251)	(1,382)
Net deferred tax assets	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>

In assessing the valuation allowance for deferred tax assets, management considers whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. Ultimately, the realization of deferred tax assets will depend on the existence future taxable income during the periods. In making this assessment, management considers past operating results, the scheduled reversal of deferred tax liabilities, estimates of future taxable income and tax planning strategies.

As of March 31, 2019, 2018 and 2017, the Company has concluded that a valuation allowance was appropriate in light of the significant negative evidence, which was objective and verifiable, primarily the cumulative losses in recent years.

While the Company's long-term financial outlook remains positive, the Company concluded that its ability to rely on its long-term outlook as to future taxable income was limited due to the relative weight of the negative evidence from its recent cumulative losses. The Company's conclusion regarding the need for a valuation allowance against its deferred tax assets could change in the future based on improvements in operating performance, which may result in the full or partial reversal of the valuation allowance.

At March 31, 2019, the Company has net operating loss carry forwards and tax credit carry forwards available to offset future federal income tax as follows (in thousands):

Expires March 31,	Net Operating Losses	Research and Experimentation Tax Credits
2020	\$ —	\$ 8
2021	—	2
2022	2,839	—
2023	1,863	1
2026	159	—
2027	2,665	1
2028	1,612	16
2031	389	—
2032	44	—
2033	76	—
2034	392	—
2035	18	—
2037	1,681	—
2038	168	—
Indefinite carryforward	2,637	—
	<u>\$ 14,543</u>	<u>\$ 28</u>

Under the Tax Act, the corporate Alternative Minimum Tax (AMT) was repealed. Taxpayers with AMT credit carryovers can use the credits to offset regular tax liability for any taxable year. In addition, the AMT credit is refundable in any taxable year beginning after December 31, 2017 and before December 31, 2022 in an amount equal to 50% (100% in the case of taxable years beginning in 2021) of the excess of the minimum tax credit for the taxable year over the amount of the credit allowable for the year against regular tax liability. Thus, a taxpayers' entire AMT credit carryforward amounts are fully refundable by 2022. The Company has an AMT credit carryforward of \$120,000 as of March 31, 2019. The Company has reduced the AMT credit carryforward expected to be refundable in the tax year ended March 31, 2019 by applying the current 6.2% sequestration rate. As a result, \$4,000 is still available to reduce future federal regular income taxes over an indefinite period. The Company will request the following refunds of \$116,000 for the tax years ending March 31, 2019 through March 31, 2022:

Tax Year Ending:	AMT Credit Refund Request (in thousands)
March 31, 2019	\$ 56
March 31, 2020	30
March 31, 2021	15
March 31, 2022	15
	<u>\$ 116</u>

At March 31, 2019, the Company has state tax net operating loss carry forwards available to offset future California state taxable income of \$2,300,000. These carry forwards expire March 31, 2030 through 2038. At March 31, 2019, the Company has state tax net operating loss carry forwards available to offset future Hawaii state taxable income of \$7,712,000. These carry forwards expire March 31, 2030 through 2038. The Company has state net operating losses in several additional states that are immaterial.

The following represents the open tax years and jurisdictions that the Company used in its evaluation of tax positions:

Open tax years ending March 31,	Jurisdiction
2016 - 2019	U.S. Federal
2016 - 2019	State of Hawaii
2015 - 2019	State of California

16. RELATED-PARTY TRANSACTIONS AND BALANCES

During the year ended March 31, 2019, the Company entered into a consulting agreement with an effective date of May 5, 2018 with a vendor that employs one of our independent directors. The Company's independent director is not named in or involved in the performance of the consulting agreement. The amount of contract was for \$120,000 and the all the payments made against the contract are reflected in general and administrative expense during the year ended March 31, 2019.

17. SUBSEQUENT EVENTS

On April 12, 2019, Company obtained an unsecured subordinated loan from Skywords Family Foundation, Inc. (“Skywords”) in the principal amount of \$1,500,000 pursuant to a Promissory Note (the “Skywords Note”) executed by the Company in favor of Skywords. Skywords is controlled by the Company’s Chairman of the Board of Directors and largest stockholder. The Skywords Note bears interest at a rate of 1% plus the prime rate (as published by the Wall Street Journal), which will be recalculated and payable on a quarterly basis. The principal amount and any accrued and unpaid interest will be due and payable on April 12, 2021, unless accelerated in an event of default. The Company may prepay the Skywords Note at any time without penalty. The proceeds of the Skywords Note will be used to pay down accounts payable and for general operating capital purposes.

18. SELECTED QUARTERLY FINANCIAL DATA (UNAUDITED)

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Year
(in thousands, except per share data)					
2019					
Net sales	\$ 7,145	\$ 6,954	\$ 10,044	\$ 6,059	\$ 30,202
Gross profit	1,836	2,285	4,116	2,229	10,466
Net income (loss)	(1,275)	(1,136)	288	(1,473)	(3,596)
Net income (loss) per share					
Basic and diluted	(0.22)	(0.20)	0.05	(0.25)	(0.62)
2018					
Net sales	\$ 8,809	\$ 8,055	\$ 9,150	\$ 8,101	\$ 34,115
Gross profit	3,603	3,620	4,240	1,908	13,371
Net income (loss)	501	475	1,107	(1,058)	1,025
Net income (loss) per share					
Basic and diluted	0.09	0.08	0.19	(0.18)	0.18

Item 9A. Controls and Procedures

Disclosure Controls and Procedures

Under the supervision and with the participation of our management, including our chief executive officer (“CEO”) and chief financial officer (“CFO”), we have evaluated the effectiveness of our disclosure controls and procedures, as defined in Rules 13a-15(e) and 15(d)-15(e) of the Exchange Act as of the end of the period covered by this Report. Based on that evaluation, our CEO and CFO have concluded that our disclosure controls and procedures are effective to provide reasonable assurance that information we are required to disclose in reports we file or submit under the Exchange Act is (1) recorded, processed, summarized and reported within the time periods specified in the SEC’s rules and forms and (2) accumulated and communicated to our management, including our CEO and CFO, as appropriate to allow timely decisions regarding required disclosures.

Management’s Report on Internal Control over Financial Reporting.

The Company’s management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act). The Company’s internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. Our management evaluated the effectiveness of our internal control over financial reporting as of March 31, 2019. In making this assessment, our management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission in “Internal Control - Integrated Framework” (2013 Framework). Based on our assessment, using those criteria, management concluded that our internal control over financial reporting was effective as of March 31, 2019.

Changes in Internal Control over Financial Reporting.

There have not been any changes in our internal control over financial reporting (as such term is defined in Rule 13a-15(f) and 15d-15(f) under the Exchange Act) during the fourth fiscal quarter that our certifying officers concluded materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Limitations on the Effectiveness of Controls.

Our management, including our Chief Executive Officer and Chief Financial Officer, do not expect that our disclosure controls and procedures will prevent all errors and all fraud. A control system no matter how well designed and implemented, can provide only reasonable, not absolute, assurance that the control system’s objectives will be met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues within a company are detected. The inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of simple error or mistakes. Controls can also be circumvented by the individual acts of some persons, or by collusion of two or more people. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

Item 9B. Other Information

Not applicable

PART III

Item 10. Directors, Executive Officers of the Registrant and Corporate Governance

Information with respect to Directors may be found under captions “Proposal One: Election of Directors,” “Board Meetings and Committees,” “Director Compensation,” “Security Ownership of Certain Beneficial Owners and Management: and “Compliance with Section 16(a) of the Exchange Act” contained in Cyanotech’s definitive 2019 Proxy Statement. Information on Executive Officers may be found under the caption “Executive Officers” contained in Cyanotech’s definitive 2019 Proxy Statement.

We have adopted the Cyanotech Code of Ethics for our officers and employees. We have also adopted the Board of Directors Code of Conduct. Both Codes are publicly available on our website at www.cyanotech.com. If we make any substantive amendments to or grant any waiver from such Codes relating to our Chief Executive Officer, Chief Financial Officer or Controller, we will disclose the nature of such amendment in a report on Form 8-K and amend the website disclosure.

Item 11. Executive Compensation

The information required by this Item is incorporated herein by reference from the sections captioned “Executive Compensation and Other Information,” “Equity Compensation Plan Information” and “Option Grants in Fiscal Year 2019,” contained in Cyanotech’s definitive 2019 Proxy Statement.

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

The security ownership information required by this Item is incorporated herein by reference from the sections captioned “Equity Compensation Plan Information” and “Security Ownership of Certain Beneficial Owners and Management” contained in Cyanotech’s definitive 2019 Proxy Statement.

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

The information required by this Item, if any, is incorporated herein by reference from the sections captioned “Related Party Transactions” contained in Cyanotech’s definitive 2019 Proxy Statement.

Item 14. Principal Accountant Fees and Services

Information concerning principal accountant fees and services appears under the heading “Independent Registered Public Accounting Firm’s Fees” in Cyanotech’s definitive 2019 Proxy Statement.

PART IV

Item 15. Exhibits and Financial Statements Schedules

(a) Financial Statements and Schedule

- (1) The following Financial Statements of Cyanotech Corporation and the Report of Independent Registered Public Accounting Firm are included in Item 8 of this report:

Report of Independent Registered Public Accounting Firm	23
Consolidated Balance Sheets as of March 31, 2019 and 2018	24
Consolidated Statements of Operations for the years ended March 31, 2019, 2018 and 2017	25
Consolidated Statements of Stockholders' Equity for the years ended March 31, 2019, 2018 and 2017	26
Consolidated Statements of Cash Flows for the years ended March 31, 2019, 2018 and 2017	27
Notes to Consolidated Financial Statements	28

- (2) The following financial statement schedule is included in this report on the pages indicated below:

Schedule II—Valuation and Qualifying Accounts	50
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Financial statement schedules not listed above have been omitted since they are either not required, not applicable or the information is included in the consolidated financial statements or notes thereto.

(b) Exhibit Listing

Exhibit Number	Document Description
3.1	Restated Articles of Incorporation (Incorporated by reference to Exhibit 3.1 to the Company's Quarterly Report on Form 10-Q, filed November 9, 2012, File No. 0-14602).
3.2	Amended and Restated Bylaws (Incorporated by reference to Exhibit 3.2 to the Company's Report on Form 8-K filed January 13, 2010, File No. 0-14602)
4.1	Specimen Common Stock (Incorporated by reference to Exhibit 4.1 to the Company's Annual Report on Form 10-K for the year ended March 31, 2007, File No. 0-14602)
10.1	Sub-Lease Agreement between the Company and Natural Energy Laboratory of Hawaii Authority dated December 29, 1995 (Incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-QSB for the quarter ended December 31, 1995)
10.2	Supplemental Agreement effective February 1, 2012 to amend the Sub-Lease Agreement described in Exhibit 10.1 herein, (Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K dated March 9, 2012).
10.3	2004 Independent Director Stock Option and Restricted Stock Grant Plan, amended and restated November 8, 2011 (Incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q dated November 14, 2011 for the quarter ended September 30, 2011).
10.4	2005 Stock Option Plan, amended August 29, 2011 (Incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2011).
10.5	Settlement Agreement, by and between Brent D. Bailey and the Company, dated April 6, 2017 (Incorporated by reference as Exhibit 10.1 to the Company's Report on Form 8-K filed on April 11, 2017)
10.6	Term Loan Agreement between Pacific Rim Bank ("Pacific Rim") and both the Company and Nutrex Hawaii, Inc. ("Nutrex"); Promissory Notes in favor of Pacific Rim in the amounts of \$2,250,000 and \$3,250,000, issued by the Company and Nutrex, dated September 7, 2012; Mortgage, Security Agreement and Financing Statement between the Company and Pacific Rim; Assignment of Lessor's Interest in Leases and Rents between the Company and Pacific Rim; Security Agreement and UCC Financing Statement between the Company and Pacific Rim; United States Department of Agriculture Rural Development ("USDA") Conditional Commitments; Hazardous Substances Certificate and Indemnity Agreement; Assignment of Construction Contract between the Company and No'Eau Construction LLC; Sublessor's Consent to Mortgage of Sublease K-4; Estoppel Certificate and Subordination Agreement, given by the Natural Energy Laboratory of Hawaii Authority, State of Hawaii, as Sublessor; Security Agreement and UCC Financing Statement between Nutrex and Pacific Rim. (Incorporated by reference as Exhibit 4.1 to the Company's Report on Form 10-Q filed on November 9, 2012)
10.7	Term Loan Agreement between First Foundation Bank ("First Foundation") and both the Company and Nutrex; Promissory Note in favor of First Foundation in the amount of \$2,500,000, issued by the Company and Nutrex, dated July 30, 2015; Mortgage, Security Agreement and Financing Statement between the Company and First Foundation; Assignment of Lessor's Interest in Leases and Rents between the Company and First Foundation; Security Agreement and UCC Financing Statement between the Company and First Foundation; Security Agreement and UCC Financing Statement between Nutrex and First Foundation; USDA Conditional Commitments; Hazardous Substances Certificate and Indemnity Agreement; Sublessor's Consent to Mortgage of Sublease K-4; Estoppel Certificate and Subordination Agreement. (Incorporated by reference as Exhibits 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 4.9 to the Company's Report on Form 10-Q filed on November 12, 2015)
10.8	2014 Independent Director Stock Option and Restricted Stock Grant Plan (Incorporated by reference to the Company's Definitive Proxy Statement filed July 18, 2014)
10.9	2016 Equity Incentive Plan (Incorporated by reference to the Company's Definitive Proxy Statement filed July 15, 2016)
10.10	Revolving Credit Agreement, by and between First Foundation Bank and the Company, dated June 3, 2016. (Incorporated by reference as Exhibit 10.1 to the Company's Current Report on Form 8-K filed September 1, 2016).
10.11	Executive Employment Agreement by and between Mawae Rex Morton and the Company, dated July 14, 2017. (Incorporated by reference as Exhibit 10.1 to the Company's Current Report on Form 8-K filed July 17, 2017).
10.12	First Amendment to Executive Employment Agreement, by and between Mawae Rex Morton and the Company, dated January 10, 2018 (Incorporated by reference as Exhibit 10.1 to the Company's Current Report on Form 8-K filed January 25, 2018).
10.13	Separation Agreement, by and between Gerard Watts and the Company, dated October 31, 2018 (Incorporated by reference as Exhibit 10.1 to the Company's Current Report on Form 8-K filed November 6, 2018).
10.14	Supplemental Agreement No. 1 to Modify Sublease No. K-26, by and among Cellana LLC, the Natural Energy Laboratory of Hawaii Authority, and the Company, effective as of October 1, 2018 (Incorporated by reference as Exhibit 10.1 to the Company's Current Report on Form 8-K filed December 7, 2018)
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21.1	Subsidiaries of the Company (Incorporated by reference to Exhibit 21.1 to the Company's Annual Report on Form 10-K for the year ended March 31, 2012, File No. 0-14602)
23.1*	Consent of Independent Registered Public Accounting Firm signed July 1, 2019
31.1*	Certifications of Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 signed as of July 1, 2019.
31.2*	Certifications of Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 signed as of July 1, 2019.
32.1*	Certifications of Chief Executive Officer and Chief Financial Officer Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 signed as of July 1, 2019.
99.1*	Press Release dated July 1, 2019.
101	The following financial information from our Annual Report on Form 10-K for fiscal year ended March 31, 2019, filed with the SEC on July 1, 2019, formatted in XBRL (eXtensible Business Reporting Language): (i) the Consolidated Balance Sheets at March 31, 2019 and 2018, (ii) the Consolidated Statements of Operations for the years ended March 31, 2019, 2018 and 2017, (iii) the Consolidated Statements of Stockholders' Equity for the years ended March 31, 2019, 2018 and 2017, (iv) the Consolidated Statements of Cash Flows for the years ended March 31, 2019 and 2018, and (v) Notes to Consolidated Financial Statements.

* Included herewith. Other exhibits were filed as shown above.

Schedule II

Cyanotech Corporation
Valuation and Qualifying AccountsYears Ended March 31, 2019, 2018 and 2017
(in thousands)

Description	Balance at Beginning of Year	Additions		Deductions	Balance at End of Year
		Charged to Costs and Expense	Charged to Other Accounts		
Allowance for Doubtful Accounts:					
2019	\$ 27	\$ —	\$ —	\$ —	\$ 27
2018	49	—	—	22	27
2017	136	—	—	87	49

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, on the 1st day of July, 2019.

CYANOTECH CORPORATION

By: /s/ Gerald R. Cysewski, PH.D.
Gerald R. Cysewski, PH.D.
Chief Executive Officer; Vice Chairman of the Board

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

Signatures	Title	Date
<u>/s/ Gerald R. Cysewski, PH.D.</u> Gerald R. Cysewski, PH.D.	Chief Executive Officer; Vice Chairman of the Board	July 1, 2019
<u>/s/ Brian Orlopp</u> Brian Orlopp	Chief Financial Officer, Vice President—Finance and Administration (Principal Financial Accounting Officer)	July 1, 2019
<u>/s/ Michael A. Davis</u> Michael A. Davis	Chairman of the Board	July 1, 2019
<u>/s/ Nancy E. Katz</u> Nancy Katz	Director	July 1, 2019
<u>/s/ Walter B. Menzel</u> Walter B. Menzel	Director	July 1, 2019
<u>/s/ David M. Mulder</u> David M. Mulder	Director	July 1, 2019
<u>/s/ David L. Vied</u> David L. Vied	Director	July 1, 2019

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