MESA LABORATORIES INC /CO Form 424B3 June 22, 2018
Filed Pursuant to Rule 424(b)(3) Registration No. 333-225451
PROSPECTUS
\$300,000,000
MESA LABORATORIES, INC.
By this Prospectus, we may offer, from time to time —
Common stock Warrants
Investing in our securities involves a high degree of risk. Risks associated with an investment in our securities will be described in any applicable prospectus supplement and are and will be described in certain of our filings with the Securities and Exchange Commission ("SEC"), as described in "Risk Factors: beginning on page 3.
Our common stock is listed on the Nasdaq Global Market ("Nasdaq") under the symbol "MLAB." On June 1, 2018, the last reported sale price of our common stock on Nasdaq was \$163.51 per share.
We will provide specific terms of these securities in supplements to this Prospectus. You should read this Prospectus and any supplement carefully before you purchase any of our securities.

This Prospectus may not be used to offer and sell securities unless accompanied by a prospectus supplement.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this Prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

We may offer the securities in amounts, at prices and on terms determined at the time of offering. We may sell the securities directly to you, through agents we select, or through underwriters and dealers we select. If we use agents, underwriters or dealers to sell the securities, we will name them and describe their compensation in a prospectus supplement.

This Prospectus is dated June 20, 2018

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No person has been authorized to give any information or make any representations in connection with this offering other than those contained or incorporated by reference in this Prospectus and any accompanying prospectus supplement in connection with the offering described in this Prospectus and any accompanying prospectus supplement, and, if given or made, such information or representations must not be relied upon as having been authorized by us. Neither this Prospectus nor any prospectus supplement shall constitute an offer to sell or a solicitation of an offer to buy offered securities in any jurisdiction in which it is unlawful for such person to make such an offering or solicitation. Neither the delivery of this Prospectus or any prospectus supplement nor any sale made hereunder shall under any circumstances imply that the information contained or incorporated by reference in this Prospectus or in any prospectus supplement is correct as of any date subsequent to the date of this Prospectus or of any prospectus supplement.

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SUMMARY

This Prospectus is part of a registration statement that we filed with the SEC, using a "shelf" registration process. Under this shelf process, we may, from time to time, sell any combination of the securities described in this Prospectus in one or more offerings up to a total dollar amount of \$300,000,000. This Prospectus provides you with a general description of the securities we may offer. Each time we sell securities, we will provide a prospectus supplement that will contain specific information about the terms of that offering. This Prospectus does not contain all of the information included in the registration statement. For a more complete understanding of the offering of the securities, you should refer to the registration statement, including its exhibits. The prospectus supplement may also add, update or change information contained in this Prospectus. You should read both this Prospectus and any prospectus supplement, including the risk factors, together with the additional information described under the heading "Where You Can Find More Information."

MESA LABORATORIES, INC.

Mesa Laboratories, Inc. was incorporated under the laws of the State of Colorado on March 26, 1982. The terms "we," "us," "our," the "Company" or "Mesa" are used in this report to refer collectively to the parent company and the subsidiaries through which our various businesses are conducted. We pursue a strategy of focusing primarily on quality control products and services, which are sold into niche markets that are driven by regulatory requirements. We prefer markets where we can establish a strong presence and achieve high gross margins. We are organized into four divisions across nine physical locations, Our Sterilization and Disinfection Control Division (formerly named the Biological Indicators Division) provides testing services, along with the manufacturing and marketing of biological, chemical and cleaning indicators used to assess the effectiveness of sterilization and disinfection processes in the hospital, dental, medical device and pharmaceutical industries. Our Instruments Division designs, manufactures and markets quality control instruments and disposable products utilized in the healthcare, pharmaceutical, food and beverage, medical device, industrial hygiene and environmental air sampling industries. Our Cold Chain Monitoring Division designs, develops and markets systems which are used to monitor various environmental parameters such as temperature, humidity and differential pressure to ensure that critical storage and processing conditions are maintained in hospitals, pharmaceutical and medical device manufacturers, blood banks, pharmacies and laboratory environments. Our Cold Chain Packaging Division provides packaging development consulting services and thermal packaging products such as coolers, boxes, insulation materials and phase-change products to control temperature during transport.

Our Bozeman, Montana and Munich, Germany locations manufacture our Sterilization and Disinfection Control Division products which include the EZTest®, ProSpore®, PCD®, Apex® and Simicon biological and cleaning indicators, while our Bozeman, Montana, facility also provides sterility assurance testing services to dental offices in the United States and Canada. Our Lakewood, Colorado, and Butler, New Jersey, facilities manufacture our Instruments Division products which include the DataTrace®, DialyGuard®, DryCal®, Torqo®, SureTorque® and BGI brands. Our Lakewood, Colorado, facility also manufactures our Cold Chain Monitoring Division products which include CheckPoint®, AmegaView, ViewPoint® and FreshLoc brands. Our Markham, Ontario, facility manufactures

our Mesa brand real time monitoring solutions and outsources the manufacture of our TempTrust® brand of packaging materials.

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Our philosophy is to manufacture products of exceptional quality and provide a high level of on-going service for those products. Our revenues come from two main sources – product sales and services. Our strategic goals involve continuing to grow revenues and profits through three key strategies – a) improving our commercial channels, b) introducing new products to the market, and c) seeking out companies or product lines to acquire.

Our principal executive offices and corporate headquarters are located at 12100 West Sixth Ave., Lakewood, Colorado 80228, and our telephone number is 303-987-8000. Our website is www.mesalabs.com. The information contained in or connected to our website is not incorporated by reference into this Prospectus and should not be considered a part hereof.

THE SECURITIES WE MAY OFFER

We may offer up to \$300,000,000 of common stock and warrants in one or more offerings and in any combination. A prospectus supplement, which we will provide each time we offer securities, will describe the specific amounts, prices and terms of these securities.

We may sell the securities to or through underwriters, dealers or agents or directly to purchasers. We, as well as any agents acting on our behalf, reserve the sole right to accept and to reject in whole or in part any proposed purchase of securities. Each prospectus supplement will set forth the names of any underwriters, dealers or agents involved in the sale of securities described in that prospectus supplement and any applicable fee, commission or discount arrangements with them.

Common Stock

We may offer shares of our common stock, no par value per share, either alone or underlying other registered securities convertible into our common stock. Holders of our common stock are entitled to receive dividends declared by our board of directors out of funds legally available for the payment of dividends. We have paid a quarterly dividend since our fiscal year ended March 31, 2004. Each holder of our common stock is entitled to one vote per share. The holders of our common stock have no preemptive rights.

Warrants

We may issue warrants for the purchase of our common stock. We may issue warrants independently or together with other securities.

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FORWARD-LOOKING STATEMENTS

This Prospectus contains information that may constitute "forward-looking statements." Generally, the words "believe," "estimate," "will," "expect," "project," "anticipate," "intend," and similar expressions identify forward-looking statements, which generally are not historical in nature. However, the absence of these words or similar expressions does not mean that a statement is not forward-looking. All statements that address operating performance, events or developments that we expect or anticipate will occur in the future — including statements relating to revenues growth and statements expressing general views about future operating results — are forward-looking statements. Management believes that these forward-looking statements are reasonable as and when made. However, caution should be taken not to place undue reliance on any such forward-looking statements because such statements speak only as of the date when made. We undertake no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law. In addition, forward-looking statements are subject to certain risks and uncertainties that could cause actual results to differ materially from our historical experience and our present expectations or projections. In evaluating our forward-looking statements, you should specifically consider the risks and uncertainties discussed under "Risk Factors" in this Prospectus and in documents we incorporate by reference. Except as required by law, we undertake no obligation to publicly update or revise our forward-looking statements to reflect events or circumstances that arise after the date of this Prospectus.

RISK FACTORS

In addition to the other information set forth in this Prospectus and other documents we filed with the SEC, you should carefully consider the following factors, which could materially affect our business, financial condition or results of operations in future periods. The risks and uncertainties described below are those that we have identified as material, but these are not the only risks and uncertainties facing us. Our business is also subject to general risks and uncertainties that affect many other companies, such as market conditions, economic conditions, geopolitical events, changes in laws, regulations or accounting rules, fluctuations in interest rates, terrorism, wars or conflicts, major health concerns, natural disasters or other disruptions of expected business conditions. Additional risks and uncertainties not currently known to us or that we currently believe are immaterial also may impair our business, including our results of operations, liquidity and financial condition.

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Conditions in the global economy, the markets we serve, and the financial markets may adversely affect our business and results of operations.

Our business is sensitive to general economic conditions. Slower global economic growth, actual or anticipated default on sovereign debt, volatility in the currency and credit markets, high levels of unemployment or underemployment, reduced levels of capital expenditures, changes or anticipation of potential changes in government fiscal, tax, trade and monetary policies, changes in capital requirements for financial institutions, government deficit reduction and budget negotiation dynamics, sequestration, austerity measures and other challenges that affect the global economy adversely could affect us and our distributors, customers and suppliers, including having the effects of:

reducing demand for our products and services, limiting the financing available to our customers and suppliers, increasing order cancellations and resulting in longer sales cycles;

increasing the difficulty in collecting accounts receivable and the risk of excess and obsolete inventories;

increasing price competition in our served markets;

supply interruptions, which could disrupt our ability to produce our products; and

increasing the risk that counterparties to our contractual arrangements will become insolvent or otherwise unable to fulfill their contractual obligations, which could increase the risks identified above.

If growth in the global economy or in any of the markets we serve slows for a significant period, if there is significant deterioration in the global economy or such markets or if improvements in the global economy do not benefit the markets we serve, our business and results of operations could be adversely affected.

Our growth could suffer if the markets into which we sell our products and services decline, do not grow as anticipated or experience cyclicality.

Our growth depends in part on the growth of the markets which we serve, and visibility into our markets is limited (particularly for markets into which we sell through distributors). Our quarterly results of operations depend substantially on the volume and timing of orders received during the quarter, which are difficult to forecast. Any decline or lower than expected growth in our served markets could diminish demand for our products and services, which could adversely affect our results of operations and consolidated financial statements. Certain of our businesses

operate in industries that may experience periodic, cyclical downturns. In addition, in certain of our businesses, demand depends on customers' capital spending budgets as well as government funding policies, and matters of public policy and government budget dynamics, as well as product and economic cycles which can affect the spending decisions of these entities. Demand for our products and services is also sensitive to changes in customer order patterns, which may be affected by announced price changes, new product introductions, competition and customer inventory levels. Any of these factors could adversely affect our growth and results of operations in any given period.

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We face competition and if we are unable to compete effectively, we may experience decreased demand and decreased market share. Even if we compete effectively, we may be required to reduce prices for our products and services.

The markets for our current and potential products are competitive. Because of the range of products and services we sell and the variety of markets we serve, we encounter a wide variety of competitors, including several that possess both larger sales forces and greater capital resources. In order to compete effectively, we must maintain longstanding relationships with major customers, continue to grow our business by establishing relationships with new customers, develop new products and services to maintain and expand our brand recognition and leadership position in various product and service categories, and penetrate new markets, including in developing countries and high growth markets. In addition, significant shifts in industry market share can occur in connection with product problems, safety alerts and publications about products, reflecting the competitive significance of product quality, product efficacy and quality systems in our industries. Our failure to compete effectively and/or pricing pressures resulting from competition may adversely impact our results of operations, and our expansion into new markets may result in greater-than-expected risks, liabilities and expenses.

Changing industry trends may affect our results of operations.

Various changes within the industries we serve may limit future demand for our products and may include the following:

changes in dialysis reimbursements;

mergers within the dialysis provider industry, concentrating our medical meter and solutions sales with a few, large customers;

mergers within other industries we serve, making us more dependent upon fewer, larger customers for our sales;

decreased product demand, driven by changes in our customers' regulatory environments or standard industry practices; and

price competition for key products.

Our growth depends in part on the timely development and commercialization, and customer acceptance, of new and enhanced products and services and the efforts of third party distributors.

Our growth depends on the acceptance of our products and services in the marketplace, the penetration achieved by the companies which we sell to, and rely on, to distribute and represent our products, and our ability to introduce new and innovative products that meet the needs of the various markets we serve. We can offer no assurance that we will be able to continue to introduce new and enhanced products, that the products we introduce, or have introduced, will be widely accepted by the marketplace, or that the companies that we contract with to distribute and represent our products will continue to successfully penetrate our various markets. Our failure to continue to introduce new and enhanced products or gain widespread acceptance of our products and services could adversely affect our results of operations. In order to successfully commercialize our products and services in new markets, we will need to enter into distribution arrangements with companies that can successfully distribute and represent our products and services into various markets.

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Our reputation, ability to do business and consolidated financial statements may be impaired by improper conduct by any of our employees, agents or business partners.

We cannot provide assurance that our internal controls and compliance systems will always protect us from acts committed by employees, agents or business partners of ours (or of businesses we acquire or partner with) that would violate U.S. and/or non-U.S. laws, including the laws governing payments to government officials, bribery, fraud, kickbacks and false claims, pricing, sales and marketing practices, conflicts of interest, competition, export and import compliance, money laundering and data privacy. In particular, the U.S. Foreign Corrupt Practices Act and similar anti-bribery laws in other jurisdictions generally prohibit companies and their intermediaries from making improper payments to government officials for the purpose of obtaining or retaining business. Any such improper actions or allegations of such acts could damage our reputation and subject us to civil or criminal investigations in the United States and in other jurisdictions and related shareholder lawsuits, could lead to substantial civil and criminal, monetary and non-monetary penalties and could cause us to incur significant legal and investigatory fees. We also rely on our suppliers to adhere to our supplier standards of conduct and material violations of such standards of conduct could occur that could have a material effect on our business, reputation and consolidated financial statements.

Certain of our businesses are subject to extensive regulation by the U.S. Food and Drug Administration ("FDA") and by comparable agencies of other countries. Failure to comply with those regulations would likely adversely affect our reputation and consolidated financial statements

Certain of our products are medical devices and other products that are subject to regulation by the U.S. FDA, by other federal and state governmental agencies, by comparable agencies of other countries and regions and by regulations governing radioactive or other hazardous materials. We cannot guarantee that we will be able to obtain regulatory clearance (such as 510(k) clearance) or approvals for our new products or modifications to (or additional indications or uses of) existing products within our anticipated timeframe or at all, and if we do obtain such clearance or approval it may be time-consuming, costly and subject to restrictions. Our ability to obtain such regulatory clearances or approvals will depend on many factors and the process for obtaining such clearances or approvals could change over time and may require the withdrawal of products from the market until such clearances are obtained. Failure to comply with applicable regulations would likely adversely impact our results of operations.

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Any inability to consummate acquisitions at our historical rate and at appropriate prices could negatively impact our growth rate and stock price.

Our ability to grow revenues, earnings and cash flows at or above our historic rates depends in part upon our ability to identify and successfully acquire and integrate businesses at appropriate prices and realize anticipated synergies. We may not be able to consummate acquisitions at rates similar to the past, which could adversely impact our growth rate and our stock price. Promising acquisitions are difficult to identify and complete for a number of reasons, including high valuations, competition among prospective buyers, the availability of affordable funding in the capital markets and the need to satisfy applicable closing conditions. In addition, competition for acquisitions may result in higher purchase prices. Changes in accounting or regulatory requirements, or instability in the credit markets, could also adversely impact our ability to consummate acquisitions.

Our acquisition of businesses could negatively impact our results of operations.

As an important part of our business strategy, we acquire businesses, some of which may be material. These acquisitions involve a number of financial, accounting, managerial, operational, legal, compliance and other risks and challenges, including the following, any of which could adversely affect our business and our results of operations:

any business, technology, service or product that we acquire could under-perform relative to our expectations and the price that we paid for it, or not perform in accordance with our anticipated timetable, or we could fail to make such business profitable;

we may incur or assume significant debt in connection with our acquisitions;

acquisitions could cause our results of operations to differ from our own or the investment community's expectations in any given period, or over the long-term;

pre-closing and post-closing acquisition-related earnings charges could adversely impact our results of operations in any given period, and the impact may be substantially different from period to period;

acquisitions could create demands on our management, operational resources and financial and internal control systems that we are unable to effectively address, or for which we may incur additional costs;

we could experience difficulty in integrating personnel, operations, financial and other systems, and in retaining key employees and customers;

we may be unable to achieve cost savings or other synergies anticipated in connection with an acquisition;

we may assume by acquisition unknown liabilities, known contingent liabilities that become realized, known liabilities that prove greater than anticipated, internal control deficiencies or exposure to regulatory sanctions resulting from the acquired company's activities. The realization of any of these liabilities or deficiencies may increase our expenses, adversely affect our financial position or cause us to fail to meet our public financial reporting obligations;

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in connection with acquisitions, we often enter into post-closing financial arrangements such as purchase price adjustments, earn-out obligations and indemnification obligations, which may have unpredictable financial results; and

as a result of our acquisitions, we have recorded significant goodwill and intangible assets on our consolidated balance sheet. If we are not able to realize the value of these assets, we may be required to incur charges relating to the impairment of these assets, which could materially impact our results of operations.

The indemnification provisions of acquisition agreements by which we have acquired companies may not fully protect us and as a result we may face unexpected liabilities.

Certain of the acquisition agreements by which we have acquired companies require the former owners to indemnify us against certain liabilities related to the operation of the company before we acquired it. In most of these agreements, however, the liability of the former owners is limited, and certain former owners may be unable to meet their indemnification responsibilities. We cannot assure you that these indemnification provisions will protect us fully or at all, and as a result we may face unexpected liabilities that could adversely impact our results of operations.

Divestitures or other dispositions could negatively impact our business.

We continually assess the strategic fit of our existing businesses and may divest or otherwise dispose of businesses that are deemed not to fit with our strategic plan or are not achieving the desired return on investment. Transactions such as these pose risks and challenges that could negatively impact our business and our results of operations. For example, when we decide to sell or otherwise dispose of a business or assets, we may be unable to do so on satisfactory terms within our anticipated timeframe or at all, and even after reaching a definitive agreement to sell or dispose a business the sale may be subject to satisfaction of pre-closing conditions which may not become satisfied. In addition, divestitures or other dispositions may dilute our earnings per share, have other adverse financial and accounting impacts and distract management, and disputes may arise with buyers.

The contingent consideration associated with certain of our acquisitions may negatively impact our available cash and results from operations.

As part of certain of our acquisitions, we are required to make contingent consideration payments based on defined growth metrics over a specified earn-out period. The ultimate amount we pay may differ significantly from the liability we recorded at the time of the acquisition. If we are required to pay more than the amount initially recorded, the difference is recorded as expense in our consolidated statements of operations, which could materially impact our results of operations.

If we do not or cannot adequately protect our intellectual property, or if third parties infringe our intellectual property rights, we may suffer competitive injury or expend significant resources enforcing our rights.

We own patents, trademarks, copyrights, trade secrets and other intellectual property and licenses to intellectual property owned by others, which in the aggregate are important to our business. The intellectual property rights that we obtain, however, may not be sufficiently broad or otherwise may not provide us a significant competitive advantage, and patents may not be issued for pending or future patent applications owned by or licensed to us. In addition, the steps that we and our licensors have taken to maintain and protect our intellectual property may not prevent it from being challenged, invalidated, circumvented or designed-around, particularly in countries where intellectual property rights are not highly developed or protected. In some circumstances, enforcement may not be available to us because an infringer has a dominant intellectual property position or for other business reasons, or countries may require compulsory licensing of our intellectual property. We also rely on nondisclosure and noncompetition agreements with employees, consultants and other parties to protect, in part, trade secrets and other proprietary rights. There can be no assurance that these agreements will adequately protect our trade secrets and other proprietary rights and will not be breached, that we will have adequate remedies for any breach, that others will not independently develop substantially equivalent proprietary information or that third parties will not otherwise gain access to our trade secrets or other proprietary rights. Our failure to obtain or maintain intellectual property rights that convey competitive advantage, adequately protect our intellectual property, detect or prevent circumvention or unauthorized use of such property, and the cost of enforcing our intellectual property rights, could adversely impact our competitive position and results of operations.

Several of our products are extensively regulated, which could delay product introduction or halt sales.

The process of obtaining and maintaining required regulatory approvals is lengthy, expensive and uncertain. Although we have not experienced any substantial regulatory delays to date, we can offer no assurance that delays will not occur in the future, which could have a significant adverse effect on our ability to introduce new products on a timely basis. Regulatory agencies periodically inspect our manufacturing facilities to ascertain compliance with "good manufacturing practices" and can subject approved products to additional testing and surveillance programs. Failure to comply with applicable regulatory requirements can, among other things, result in fines, suspension of regulatory approvals, product recalls, operating restrictions and criminal penalties. While we believe that we are currently in compliance, if we fail to comply with regulatory requirements it could have an adverse effect on our results of operations and financial condition.

Product defects and unanticipated use or inadequate disclosure with respect to our products or services could adversely affect our business, reputation and our results of operations.

Manufacturing or design defects in, unanticipated use of, safety or quality issues (or the perception of such issues) with respect to, or inadequate disclosure of risks relating to the use of products and services that we make or sell

(including items that we source from third parties) can lead to personal injury, property damage or other liability. These events could lead to recalls or safety alerts, result in the removal of a product or service from the market and result in product liability or similar claims being brought against us. Recalls, removals and product liability and similar claims (regardless of their validity or ultimate outcome) can results in significant costs, as well as negative publicity and damage to our reputation that could reduce demand for our products and services.

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Catastrophic events or environmental conditions may disrupt our business.

A disruption or failure of our systems or operations because of a major weather event, cyber-attack, terrorist attack, or other catastrophic event could cause delays in completing sales, providing services or performing other mission-critical functions. A catastrophic event that results in the destruction or disruption of any of our critical business or IT systems could harm our ability to conduct normal business operations. Abrupt political change, terrorist activity, and armed conflict pose a risk of general economic disruption in affected countries, which may increase our operating costs or adversely affect our revenues. These conditions also may add uncertainty to the timing and budget for purchase/investment decisions by our customers and may result in supply chain disruptions for hardware manufacturers, either of which may adversely affect our revenues. The long-term effects of climate change on the global economy in general are unclear. Environmental regulations or changes in the supply, demand or available sources of energy may affect the availability or cost of goods and services, including natural resources, necessary to run our business. Changes in weather where we operate may increase the costs of powering and maintaining the equipment we need to produce our product lines.

Significant developments stemming from the current U.S. administration or the United Kingdom's referendum on membership in the EU could have an adverse effect on us.

Changes, potential changes or uncertainties in U.S. social, political, regulatory and economic conditions or laws and policies governing the health care system and drug prices, foreign trade, manufacturing, and development and investment in the territories and countries where we or our customers operate, stemming from the current U.S. administration, could adversely affect our business and consolidated financial statements. For example, the current U.S. administration has called for substantial changes to trade agreements, such as the North American Free Trade Agreement ("NAFTA"), has increased tariffs on certain goods imported into the United States and has raised the possibility of imposing significant, additional tariff increases. Additionally, on June 23, 2016, the United Kingdom held a referendum and voted in favor of leaving the EU. This referendum has caused and may continue to cause political and economic uncertainty, including significant volatility in global stock markets and currency exchange rate fluctuations. Although it is unknown what the full terms of the United Kingdom's future relationship with the EU will be, it is possible that there will be greater restrictions on imports and exports between the United Kingdom and other countries, including the United States, and increased regulatory complexities. Any of these factors could adversely affect customer demand, our relationships with customers and suppliers and our business and financial statements.

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We may be required to recognize impairment charges that could materially affect our results of operations.

We assess our goodwill and other intangible assets, and our other long-lived assets as and when required by accounting principles generally accepted in the United States ("GAAP") to determine whether they are impaired. If they are impaired, we would record appropriate impairment charges. It is possible that we may be required to record significant impairment charges in the future and, if we do so, our results of operations could be materially adversely affected.

Changes in accounting standards could affect our reported financial results.

New accounting standards or pronouncements that may become applicable to our Company from time to time, or changes in the interpretation of existing standards and pronouncements, could have a significant effect on our reported results of operations for the affected periods.

Foreign currency exchange rates may adversely affect our consolidated financial statements.

Sales and purchases in currencies other than the U.S. dollar expose us to fluctuations in the exchange rates of foreign currencies relative to the U.S. dollar and may adversely affect our consolidated financial statements. Increased strength of the U.S. dollar increases the effective price of our products sold in U.S. dollars into other countries, which may require us to lower our prices or adversely affect sales to the extent we do not increase local currency prices. Decreased strength of the U.S. dollar could adversely affect the cost of materials, products and services we purchase overseas. Revenues and expenses of our non-U.S. businesses are also translated into U.S. dollars for reporting purposes and the strengthening or weakening of the U.S. dollar could result in unfavorable translation effects. In addition, we face exchange rate risk from our investment in subsidiaries owned and operated in foreign countries.

Changes in our tax rates or exposure to additional income tax liabilities or assessments could affect our profitability. In addition, audits by tax authorities could result in additional tax payments for prior periods.

We are subject to income taxes in the U.S. and in various non-U.S. jurisdictions. On December 22, 2017, the Tax Cuts and Jobs Act ("TCJA") was enacted. The TCJA significantly revises the U.S. federal corporate income tax law by, among other things, lowering the corporate income tax rate to 21% (beginning in calendar 2018), implementing a territorial tax system, and imposing a one-time tax on unremitted cumulative non-U.S. earnings of foreign subsidiaries ("Transition Tax"). The U.S. Treasury Department and IRS have not yet issued regulations with respect to the TCJA.

Due to the potential for changes to tax laws and regulations or changes to the interpretation thereof (including regulations and interpretations pertaining to the TCJA), the ambiguity of tax laws and regulations, the subjectivity of factual interpretations, the complexity of our intercompany arrangements, uncertainties regarding the geographic mix of earnings in any particular period, and other factors, our estimates of effective tax rate and income tax assets and liabilities may be incorrect and our consolidated financial statements could be adversely affected. For example, our estimate of the net one-time charge we have incurred related to the TCJA could differ materially from our actual liability, due to, among other things, further refinement of our calculations, changes in interpretations and assumptions that we have made, additional guidance that may be issued by the U.S. Treasury Department and IRS, and actions we may take as a result of the TCJA. The impact of the factors referenced in the first sentence of this paragraph may be substantially different from period-to-period.

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In addition, the amount of income taxes we pay is subject to ongoing audits by U.S. federal, state and local tax authorities and by non-U.S. tax authorities. If audits result in payments or assessments different from our reserves, our future results may include unfavorable adjustments to our tax liabilities and our consolidated financial statements could be adversely affected. Any further significant changes to the tax system in the United States or in other jurisdictions (including changes in the taxation of international income as further described below) could adversely affect our consolidated financial statements.

Changes in tax law relating to multinational corporations could adversely affect our tax position.

The U.S. Congress, government agencies in non-U.S. jurisdictions where we and our affiliates do business, and the Organization for Economic Co-operation and Development ("OECD") have recently focused on issues related to the taxation of multinational corporations. One example is in the area of "base erosion and profit shifting," where profits are claimed to be earned for tax purposes in low-tax jurisdictions, or payments are made between affiliates from a jurisdiction with high tax rates to a jurisdiction with lower tax rates. The OECD has released several components of its comprehensive plan to create an agreed set of international rules for addressing base erosion and profit shifting. As a result, the tax laws in the United States and other countries in which we do business could change on a prospective or retroactive basis, and any such changes could adversely affect our business and financial statements.

Our business is subject to sales tax in numerous states.

The application of indirect taxes, such as sales tax, is a complex and evolving issue. A company is required to collect and remit state sales tax from certain of its customers if that company is determined to have "nexus" in a particular state. The determination of nexus varies by state and often requires knowledge of each jurisdiction's tax case law. The application and implementation of existing, new or future laws could change the states in which we are required to collect and remit sales taxes. If any jurisdiction determines that we have "nexus" in additional locations that we have not contemplated, it could have an adverse effect on our results of operations and financial condition.

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We are subject to the possibility of a variety of litigation and other legal and regulatory proceedings in the course of our business that could adversely affect our consolidated financial statements.

We are subject to the possibility of a variety of litigation and other legal and regulatory proceedings incidental to our business, including claims for damages arising out of the use of products or services and claims relating to intellectual property matters, employment matters, tax matters, commercial disputes, marketing matters, competition and sales and trading practices, environmental matters, personal injury, insurance coverage and acquisition or divestiture-related matters, as well as regulatory investigations or enforcement. We may also become subject to lawsuits as a result of past or future acquisitions or as a result of liabilities retained from, or representations, warranties or indemnities provided in connection with, divested businesses. Any of these lawsuits may include claims for compensatory damages, punitive and consequential damages and/or injunctive relief. The defense of these lawsuits may divert our management's attention, we may incur significant expenses in defending these lawsuits, and we may be required to pay damage awards or settlements or become subject to equitable remedies that could adversely affect our operations and consolidated financial statements. Moreover, any insurance or indemnification rights that we may have may be insufficient or unavailable to protect us against such losses. In addition, developments in proceedings in any given period may require us to adjust the loss contingency estimates that we have recorded in our consolidated financial statements, record estimates for liabilities or assets previously not susceptible of reasonable estimates or pay cash settlements or judgments. Any of these developments could adversely affect our consolidated financial statements in any given period. We cannot make assurances that our liabilities in connection with litigation and other legal regulatory proceedings will not exceed our estimates or adversely affect our consolidated financial statements and business.

We are utilizing variable rate financing.

As of June 1, 2018, we had \$43,625,000 in outstanding indebtedness which bears interest at either: (1) LIBOR, as defined, plus an applicable margin ranging from 1.5% to 2.50%; or (2) the alternate base rate ("ABR"), which is the greater of JPMorgan's prime rate or the federal funds effective rate or the overnight bank funding rate plus 0.5%. A change in interest rate market conditions could increase our interest costs in the future and may have an adverse effect on our results of operations.

Our indebtedness may limit our operations and our use of our cash flow, and any failure to comply with the covenants that apply to our indebtedness could adversely affect our liquidity and consolidated financial statements.

As of June 1, 2018, we had \$43,625,000 in outstanding indebtedness and, based on the remaining availability under our Credit Facility, we have the ability to incur an additional \$55,000,000 of indebtedness. Our debt level and related debt service obligations can have negative consequences, including (1) requiring us to dedicate significant cash flow from operations to the payment of principal and interest on our debt, which would reduce the funds we would have available for other purposes such as acquisitions and capital investment; (2) reducing our flexibility in planning for or

reacting to changes in our business and market conditions; and (3) exposing us to interest rate risk since our debt obligations are at variable rates. We may incur significantly more debt in the future, particularly to finance acquisitions.

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If global credit market conditions deteriorate, our financial performance could be adversely affected.

The cost and availability of credit are subject to changes in the global economic environment. If conditions in major credit markets deteriorate, our ability to obtain debt financing or the terms associated with that debt financing may be negatively affected, which could affect our results of operations.

If we suffer loss to our facilities, supply chains, distribution systems or information technology systems due to catastrophe or other events, our operations could be seriously harmed.

Our facilities, supply chains, distribution systems and information technology systems are subject to catastrophic loss due to fire, flood, earthquake, hurricane, public health crisis, war, terrorism or other natural or man-made disasters. If any of these facilities, supply chains or systems were to experience catastrophic loss, it could disrupt our operations, delay production and shipments, result in defective products or services, damage customer relationships and our reputation and result in legal exposure and large repair or replacement expenses. The third-party insurance coverage that we maintain will vary from time to time in both type and amount depending on cost, availability and our decisions regarding risk retention, and may be unavailable or insufficient to protect us fully against losses.

Adverse changes in our relationships with, or the financial condition, performance, purchasing patterns or inventory levels of, key distributors and other channel partners could adversely affect our consolidated financial statements.

Certain of our businesses sell a significant amount of their products to key distributors and other channel partners that have valuable relationships with customers and end-users. Some of these distributors and other partners also sell our competitors' products or compete with us directly, and if they favor competing products for any reason they may fail to market our products effectively. Adverse changes in our relationships with these distributors and other partners, or adverse developments in their financial condition, performance or purchasing patterns, could adversely affect our business and consolidated financial statements. The levels of inventory maintained by our distributors and other channel partners, and changes in those levels, can also negatively impact our results of operations in any given period.

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A significant disruption in, or breach in security of, our information technology systems or violation of data privacy laws could adversely affect our business, reputation and consolidated financial statements.

We rely on information technology systems, some of which are managed by third parties, to process, transmit and store electronic information (including sensitive data such as confidential business information and personally identifiable data relating to employees, customers and other business partners), and to manage or support a variety of critical business processes and activities. These systems may be damaged, disrupted or shut down due to attacks by computer hackers, computer viruses, employee error or malfeasance, power outages, hardware failures, telecommunication or utility failures, catastrophes or other unforeseen events, and in any such circumstances our system redundancy and other disaster recovery planning may be ineffective or inadequate. Attacks may also target hardware, software and information installed, stored or transmitted in our products after such products have been purchased and incorporated into third-party products, facilities or infrastructure. Security breaches of systems provided or enabled by us, regardless of whether the breach is attributable to a vulnerability in our products or services, could result in the misappropriation, destruction or unauthorized disclosure of confidential information or personal data belonging to us or to our employees, partners, customers or suppliers. Like most multinational corporations, our information technology systems have been subject to computer viruses, malicious codes, unauthorized access and other cyber-attacks and we expect the sophistication and frequency of such attacks to continue to increase. Any of the attacks, breaches or other disruptions or damage described above could interrupt our operations or the operations of our customers and partners, delay production and shipments, result in theft of our and our customers' intellectual property and trade secrets, damage customer and business partner relationships and our reputation or result in defective products or services, legal claims and proceedings, liability and penalties under privacy laws and increased costs for security and remediation, each of which could adversely affect our business and consolidated financial statements.

While we select our third-party vendors carefully (including the provider of our ERP system), we do not control their actions. Any problems caused by these third parties, including those resulting from breakdowns or other disruptions in communication services provided by a vendor, failure of a vendor to handle current or higher volumes or cyber-attacks and security breaches at a vendor could adversely affect our ability to deliver products and services to our customers and otherwise conduct our business.

We may face continuing challenges in complying with certain sections of the Sarbanes-Oxley Act.

Like many public companies, we face challenges in complying with the internal control requirements of the Sarbanes-Oxley Act (Section 404). Under current frameworks, compliance in areas such as separation of duties, information system controls, etc. may prove problematic for a smaller company with limited human resources. We may also be forced to incur on-going expense in order to comply with the law under current control frameworks or if the framework changes. These expenses may have a material adverse effect on our results of operations.

USE OF PROCEEDS

Unless otherwise indicated in a prospectus supplement, the net proceeds from the sale of securities offered by this Prospectus will be used for general corporate purposes and/or working capital requirements. We may also use a portion of the net proceeds to fund possible investments in and acquisitions of complementary businesses, partnerships, minority investments, products or technologies. Currently, there are no commitments or agreements regarding such acquisitions or investments that are material. Pending their ultimate use, we may invest the net proceeds in money market funds, commercial paper and governmental and non-governmental debt securities.

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DESCRIPTION OF CAPITAL STOCK

Our authorized capital stock consists of 25,000,000 shares of common stock, no par value. The following is a summary of the material provisions of the common stock contained in our Articles of Incorporation and Bylaws, as amended. For greater detail about our capital stock, please refer to our Articles of Incorporation and Bylaws, as amended.

Common Stock

As of June 1, 2018, there were 3,808,436 shares of common stock issued and outstanding.

The holders of our common stock are entitled to one vote per share on all matters to be voted upon by the stockholders. The holders of common stock are entitled to receive ratably dividends, if any, as may be declared from time to time by the board of directors out of funds legally available for that purpose. In the event of our liquidation, dissolution or winding up, the holders of common stock are entitled to share ratably in all assets remaining after payment of liabilities. The common stock has no preemptive or conversion rights or other subscription rights. There are no redemption or sinking fund provisions applicable to the common stock. All outstanding shares of common stock are fully paid and nonassessable, and the shares of common stock to be issued upon the closing of this offering, if any, will be fully paid and nonassessable.

Transfer Agent

The transfer agent for our common stock is Computershare Trust Company, N.A. Its address is 8742 Lucent Blvd., Suite 225, Highlands Ranch, Colorado 80129 and its telephone number is (303) 262-0600.

Listing

Our common stock is quoted on Nasdaq under the trading symbol "MLAB."

DESCRIPTION OF THE WARRANTS

General

We may issue warrants for the purchase of our common stock. Warrants may be issued independently or together with our common stock and may be attached to or separate from any offered securities. Each series of warrants may be issued under a separate warrant agreement to be entered into between us and a bank or trust company, as warrant agent. The warrant agent would act solely as our agent in connection with the warrants. The warrant agent would not have any obligation or relationship of agency or trust for or with any holders or beneficial owners of warrants. This summary of certain provisions of the warrants is not complete. For the terms of a particular series of warrants, you should refer to the prospectus supplement for that series of warrants and the warrant agreement, if any, for that particular series.

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Warrants

The prospectus supplement relating to a particular series of warrants to purchase our common stock will describe the terms of the warrants, including the following:

the title of the warrants:

the offering price for the warrants, if any;

the aggregate number of the warrants;

the designation and terms of the common stock that may be purchased upon exercise of the warrants;

if applicable, the designation and terms of the securities with which the warrants are issued and the number of warrants issued with each security;

if applicable, the date from and after which the warrants and any securities issued with the warrants will be separately transferable;

the number of shares of common stock that may be purchased upon exercise of a warrant and the exercise price of the warrants;

the dates on which the right to exercise the warrants shall commence and expire;

if applicable, the minimum or maximum amount of the warrants that may be exercised at any one time;

the currency or currency units in which the offering price, if any, and the exercise price are payable;

if applicable, a discussion of material US federal income tax considerations;

the anti-dilution provisions of the warrants, if any;

the redemption or call provisions, if any, applicable to the warrants;

any provisions with respect to holder's right to exercise the warrants on a "cashless exercise" basis;

any provisions with respect to holder's right to require us to repurchase the warrants upon a change in control; and any additional material terms of the warrants, including terms, procedures, and limitations relating to the exchange, exercise and settlement of the warrants.

Holders of warrants will not be entitled to:

vote, consent or receive dividends;

receive notice as shareholders with respect to any meeting of shareholders for the election of our directors or any other matter; or

exercise any rights as shareholders of Mesa Laboratories, Inc.

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PLAN OF DISTRIBUTION

We may sell the securities from time to time in one or more transactions:

through one or more underwriters or dealers; directly to purchasers; through agents; and through a combination of any of these methods of sale.

We may distribute the securities from time to time in one or more transactions:

at a fixed price or prices, which may be changed from time to time; at market prices prevailing at the time of sale; at prices related to prevailing market prices; and at negotiated prices.

We will describe the method of distribution of each series of securities in the applicable prospectus supplement.

We may determine the price or other terms of the securities offered under this Prospectus by use of an electronic auction. We will describe how any auction will determine the price or any other terms, how potential investors may participate in the auction and the nature of the underwriters' obligations in the related supplement to this Prospectus.

Underwriters, dealers or agents may receive compensation in the form of discounts, concessions or commissions from us or our purchasers as their agents in connection with the sale of the securities. These underwriters, dealers or agents may be considered to be underwriters under the Securities Act. As a result, discounts, commissions or profits on resale received by underwriters, dealers or agents may be treated as underwriting discounts and commissions. Each Prospectus supplement will identify any underwriter, dealer or agent, and describe any compensation received by them from us. Any initial public offering price and any discounts or concessions allowed or re-allowed or paid to dealers may be changed from time to time.

Underwriters, dealers and agents may be entitled to indemnification by us against certain civil liabilities, including liabilities under the Securities Act, or to contribution with respect to payments made by the underwriters, dealers or agents, under agreements between us and the underwriters, dealers and agents.

We may grant underwriters who participate in the distribution of securities an option to purchase additional securities to cover over-allotments, if any, in connection with the distribution.

In connection with the offering of certain offered securities, certain persons participating in such offering may engage in transactions that stabilize, maintain or otherwise affect the market prices of such offered securities of our other securities, including stabilizing transactions, syndicate covering transactions and the imposition of penalty bids. Specifically, such persons may over-allot in connection with the offering and may bid for and purchase the offered securities in the open market.

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Underwriters or agents and their associates may be customers of, engage in transactions with or perform services for us in the ordinary course of business.

To the extent required, this Prospectus may be amended and supplemented from time to time to describe a specific plan of distribution.

LEGAL MATTERS

The validity of the securities offered by this Prospectus will be passed upon by Andrew N. Bernstein, P.C., 8101 East Prentice Avenue, Suite 890, Greenwood Village, Colorado 80111.

EXPERTS

EKS&H LLLP, independent registered public accounting firm, has audited our consolidated financial statements included in our Annual Report on Form 10-K for the year ended March 31, 2018, and the effectiveness of our internal control over financial reporting as of March 31, 2018, as set forth in their report, which is incorporated by reference in this Prospectus and elsewhere in the registration statement. Our financial statements are incorporated by reference in reliance on EKS&H LLLP's report, given on the authority of such firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We file annual reports on Form 10-K, quarterly reports on Form 10-Q and current reports on Form 8-K and other information with the SEC in accordance with the Securities Exchange Act of 1934, or the Exchange Act. You may read and copy our reports and other information filed by us at the public reference room of the SEC at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information about the public reference rooms. Our reports and other information filed with the SEC are available to the public over the Internet at the SEC's website at www.sec.gov. Our Internet address is www.mesalabs.com. The information on our website is not incorporated by reference into this Prospectus.

We have filed a registration statement on Form S-3 with the SEC that covers the common stock and warrants offered by this Prospectus. This Prospectus is a part of the registration statement, but the Prospectus does not include all of the information included in the registration statement. You should refer to the registration statement for additional

information about us and the securities being offered in this Prospectus. Statements that we make in this Prospectus relating to any document filed as an exhibit to the registration statement or any document incorporated by reference into the registration statement may not be complete and you should review the referenced document itself for a complete understanding of its terms.

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The SEC allows us to "incorporate by reference" certain information we file with them, which means that we can disclose important information by referring you to those documents. The documents that have been incorporated by reference are an important part of the Prospectus, and you should be sure to review that information in order to understand the nature of any investment by you in our Company. The information incorporated by reference is considered to be a part of this Prospectus, and information that we file later with the SEC will automatically update and supersede this information. We incorporate by reference the documents listed below and any future filings made by us with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act until our offering is complete:

Our Annual Report on Form 10-K for the fiscal year ended March 31, 2018, SEC File No. 0-11740.

Our Report on Form 8-K filed with the SEC dated June 5, 2018 (for event dated June 5, 2018).

The description of our common stock contained in our Registration Statement on Form 8-A, SEC File No. 0-11740, pursuant to Section 12(g) of the Exchange Act, and any further amendment or report filed hereafter for the purpose of updating such description.

You may request a copy of these filings, at no cost, by telephoning us at 303-987-8000 or by writing us at the following address:

Mesa Laboratories, Inc.

12100 West Sixth Avenue

Lakewood, Colorado 80228

Attention: Corporate Secretary

Telephone: 303-987-8000

Facsimile: 303-987-8989

EXPENSES OF THE ISSUE

The following table sets forth the aggregate expenses to be paid by us in connection with this offering. All amounts shown are estimates, except for the SEC registration fee.

SEC Registration Fee

\$37,350

Legal fees and expenses	\$15,000
Accounting fees and expenses	\$5,000
Filing and printing expenses	\$500
Miscellaneous	\$150
Total	\$58,000

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