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

FORM 10-K/A
Amendment No. 2

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

For the fiscal year ended March 31, 2019

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

For the transition period from ____ to ____

Commission File No: 0-11740

MESA LABORATORIES, INC.
(Exact name of registrant as specified in its charter)

Colorado	**84-0872291**
(State or other jurisdiction of Incorporation or organization)	(I.R.S. Employer Identification number)
12100 West Sixth Avenue Lakewood, Colorado	**80228**
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code: **303-987-8000**

Securities registered under Section 12(b) of the Act:

Title of each class	Trading Symbol	Name of each exchange on which registered
Common Stock, no par value	MLAB	The Nasdaq Stock Market LLC

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

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

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

Indicate by check mark whether the registrant (1) has filed all reports to be filed by Section13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.
YES ☒ **NO** ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (Section 232.405 of the chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). **YES** ☒ **NO** ☐

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

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

Large accelerated filer ☐	Accelerated filer ☒	Non-accelerated filer ☐	Smaller reporting company ☐	Emerging growth company ☐

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

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).
YES ☐ **NO** ☒

The aggregate market value as of September 30, 2018 (the last business day of the registrant's most recently completed second fiscal quarter), of the voting and non-voting common equity of Mesa Laboratories Inc. held by non-affiliates (assuming, for this purpose, that all directors, officers and owners of 5% or more of the registrant's common stock are deemed affiliates) computed by reference to the price at which the common equity was last sold ($185.35 per share) was $644,305,144.

The number of outstanding shares of the Issuer's common stock as of May 28, 2019 was 3,901,097.

DOCUMENTS INCORPORATED BY REFERENCE

Part III is incorporated by reference from the registrant's definitive Proxy Statement for its 2019 Annual Meeting of Stockholders or an amendment to this report to be filed no later than 120 days after the close of the registrant's fiscal year.

EXPLANATORY NOTE

Mesa Laboratories, Inc. (“Mesa Labs”) hereby amends its Annual Report on Form 10-K for the fiscal year ended March 31, 2019, filed on June 3, 2019 and amended on July 18, 2019 on Form 10K/A Amendment No. 1 (the “Original Filing”), as set forth in this Annual Report on Form 10K/A Amendment No. 2 (this “Amendment”).

This Amendment is being filed solely to amend Item 8 in order to include a revised audit opinion of EKS&H LLLP, our independent registered public accounting firm ("EKS&H") (predecessor to Plante & Moran, PLLC) for the two-year period ended March 31, 2018 to add language requirements of PCAOB Standard 3101. There are no changes to our consolidated financial statements as set forth in the Original Filing.

Other than the inclusion within this Amendment of new certifications by management and a new consent of both EKS&H and Plante & Moran, PLLC (and related amendment to the exhibit index), this Amendment speaks only as of the date of the Original Filing and does not modify or update any other disclosures contained in our Original Filing.

Other than as set forth herein, this Amendment does not modify or update the Original Filing in any way, and the parts or exhibits of the Original Filing which have not been modified or updated are not included in this Amendment. This Amendment continues to speak as of the date of the Original Filing and the Company has not updated the disclosure contained herein to reflect events that have occurred since the filing of the Original Filing. Accordingly, this Amendment should be read in conjunction with the Company’s other filings made with the Securities and Exchange Commission since the filing of the Original Filing, including amendments to those filings, if any.

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PART II

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Stockholders and Board of Directors
Mesa Laboratories, Inc.
Lakewood, Colorado

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheet of Mesa Laboratories, Inc. (the "Company") as of March 31, 2019, the related consolidated statements of operations, comprehensive income (loss), stockholders' equity, and cash flows for the year then ended, and the related notes (collectively referred to as the "financial statements"). We also have audited the Company's internal control over financial reporting as of March 31, 2019, based on criteria established in *Internal Control-Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (the "COSO framework").

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Company as of March 31, 2019, and the results of its operations and its cash flows for the year then ended, in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of March 31, 2019, based on criteria established in the COSO framework.

Basis for Opinion

The Company's management is responsible for these financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying financial statements. Our responsibility is to express an opinion on the Company's financial statements and an opinion on the Company's internal control over financial reporting 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 audits to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audit of the financial statements included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audit also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

A 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. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

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

/s/ Plante & Moran, PLLC

We have served as the Company's auditor since 1986.

Denver, Colorado

June 3, 2019

Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors of
Mesa Laboratories, Inc.
Lakewood, Colorado

OPINION ON THE CONSOLIDATED FINANCIAL STATEMENTS

We have audited the accompanying consolidated balance sheet of Mesa Laboratories, Inc. (the “Company”) as of March 31, 2018; the related consolidated statements of operations, comprehensive income (loss), stockholders’ equity, and cash flows for each year in the two-year period ended March 31, 2018; and the related notes (collectively referred to as the “financial statements”).

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Company as of March 31, 2018 and the results of its operations and its cash flows for each year in the two-year period ended March 31, 2018 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. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ EKS&H LLLP

June 5, 2018
Denver, Colorado

We began serving as the Company's auditor in 1986. In 2018 we became the predecessor auditor.

Mesa Laboratories, Inc.
Consolidated Balance Sheets
(In thousands, except share amounts)

	March 31, 2019	March 31, 2018
ASSETS		
Current assets:		
Cash and cash equivalents	$ 10,185	$ 5,469
Accounts receivable, less allowances of $121 and $179, respectively	12,516	14,302
Inventories, net	6,772	9,228
Prepaid income taxes	2,552	273
Prepaid expenses and other	1,598	782
Assets held for sale	--	1,934
Total current assets	33,623	31,988
Property, plant and equipment, net	22,225	23,593
Deferred taxes	1,323	127
Intangibles, net	33,219	42,850
Goodwill	66,377	65,543
Total assets	$ 156,767	$ 164,101
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 2,898	$ 2,380
Accrued salaries and payroll taxes	7,324	4,284
Current portion of long-term debt	2,125	1,625
Unearned revenues	3,965	3,921
Current portion of contingent consideration	45	709
Income taxes payable	--	1,008
Legal liability	3,300	--
Other accrued expenses	4,004	3,363
Total current liabilities	23,661	17,290
Deferred income taxes	1,077	2,621
Long-term debt, net of debt issuance costs and current portion	20,613	44,635
Other long-term liabilities	105	194
Total liabilities	45,456	64,740
Stockholders' equity:		
Common stock, no par value; authorized 25,000,000 shares; issued and outstanding, 3,890,138 and 3,801,439 shares, respectively	39,823	30,516
Retained earnings	73,303	68,281
Accumulated other comprehensive (loss) income	(1,815)	564
Total stockholders' equity	111,311	99,361
Total liabilities and stockholders' equity	$ 156,767	$ 164,101

See accompanying notes to consolidated financial statements.

Mesa Laboratories, Inc.
Consolidated Statements of Operations
(In thousands, except per share data)

	Year Ended March 31,		
	2019	2018	2017
Revenues			
Product	$ 81,798	$ 74,386	$ 73,510
Service	21,337	21,793	20,155
Total revenues	103,135	96,179	93,665
Cost of revenues			
Cost of products	30,250	29,877	26,548
Cost of services	11,969	11,683	13,878
Total cost of revenues	42,219	41,560	40,426
Gross profit	60,916	54,619	53,239
Operating expenses			
Selling	8,260	8,823	9,955
General and administrative	31,295	26,255	22,814
Research and development	3,506	3,539	4,157
Impairment loss on goodwill and long-lived assets	4,774	13,819	--
Legal settlement	3,300	--	--
Total operating expenses	51,135	52,436	36,926
Operating income	9,781	2,183	16,313
Other expense, net	1,158	1,882	2,017
Earnings before income taxes	8,623	301	14,296
Income tax expense	1,139	3,263	3,113
Net income (loss)	$ 7,484	$ (2,962)	11,183
Earnings (loss) per share:			
Basic	$ 1.95	$ (0.79)	$ 3.04
Diluted	1.86	(0.79)	2.91
Weighted-average common shares outstanding:			
Basic	3,839	3,770	3,679
Diluted	4,033	3,770	3,844

See accompanying notes to consolidated financial statements.

Mesa Laboratories, Inc.
Consolidated Statements of Comprehensive Income (Loss)
(In thousands except per share data)

	Year Ended March 31,		
	2019	2018	2017
Net income (loss)	$ 7,484	$ (2,962)	11,183
Other comprehensive (loss) income, net of tax:			
Foreign currency translation adjustments	(2,379)	2,324	(609)
Comprehensive income (loss)	$ 5,105	$ (638)	$ 10,574

See accompanying notes to consolidated financial statements.

Mesa Laboratories, Inc.
Consolidated Statements of Stockholders' Equity
(In thousands, except share amounts)

	Common Stock								
	Number of Shares		Amount		Retained Earnings		AOCI*		Total
March 31, 2016	3,637,273	$	21,001	$	64,828	$	(1,151)	$	84,678
Common stock issued for conversion of stock options net of 13,964 shares returned as payment	97,431		3,513		--		--		3,513
Dividends paid, $0.64 per share	--		--		(2,355)		--		(2,355)
Stock-based compensation	--		1,411		--		--		1,411
Foreign currency translation	--		--		--		(609)		(609)
Net income	--		--		11,183		--		11,183
March 31, 2017	3,734,704		25,925		73,656		(1,760)		97,821
Common stock issued for conversion of stock options net of 8,562 shares returned as payment	66,735		2,919		--		--		2,919
Dividends paid, $0.64 per share	--		--		(2,413)		--		(2,413)
Stock-based compensation	--		1,672		--		--		1,672
Foreign currency translation	--		--		--		2,324		2,324
Net loss	--		--		(2,962)		--		(2,962)
March 31, 2018	3,801,439		30,516		68,281		564		99,361
Common stock issued for conversion of stock options net of 4,853 shares returned as payment	88,699		5,095		--		--		5,095
Dividends paid, $0.64 per share	--		--		(2,462)		--		(2,462)
Stock-based compensation	--		4,212		--		--		4,212
Foreign currency translation	--		--		--		(2,379)		(2,379)
Net income	--		--		7,484		--		7,484
March 31, 2019	3,890,138	$	39,823	$	73,303	$	(1,815)	$	111,311

*Accumulated Other Comprehensive (Loss) Income.

See accompanying notes to consolidated financial statements.

Mesa Laboratories, Inc.
Consolidated Statements of Cash Flows
(In thousands)

	Year Ended March 31, 2019	2018	2017
Cash flows from operating activities:			
Net income (loss)	$ 7,484	$ (2,962)	$ 11,183
Adjustments to reconcile net income to net cash and cash equivalents provided by operating activities:			
Depreciation and amortization	9,428	9,471	8,737
Stock-based compensation	4,212	1,672	1,411
Impairment loss on goodwill and long-lived assets	4,774	13,819	--
Change in inventory reserve	(380)	2,474	194
Gain on disposition of assets	(288)	(116)	--
Deferred taxes	(2,472)	(2,704)	(630)
Foreign currency adjustments	(108)	(490)	93
Adjustment to contingent consideration	(32)	300	--
Other	45	110	--
Cash provided by changes in operating assets and liabilities:			
Accounts receivable, net	1,592	680	994
Inventories, net	2,574	2,286	101
Prepaid expenses and other current assets	(2,898)	755	(830)
Accounts payable	1,092	212	(655)
Accrued liabilities and taxes payable	5,477	408	(3,066)
Unearned revenues	54	(196)	(228)
Net cash provided by operating activities	30,554	25,719	17,304
Cash flows from investing activities:			
Acquisitions	(4,840)	(15,518)	(6,800)
Proceeds from sale of assets	2,222	1,133	--
Purchases of property, plant and equipment	(1,262)	(2,799)	(11,605)
Net cash used in investing activities	(3,880)	(17,184)	(18,405)
Cash flows from financing activities:			
Proceeds from the issuance of debt	2,000	11,000	66,550
Payments on debt	(25,625)	(19,625)	(57,000)
Contingent consideration	(680)	(905)	(9,554)
Dividends	(2,462)	(2,413)	(2,355)
Proceeds from the exercise of stock options	5,095	2,919	3,513
Net cash (used in) provided by financing activities	(21,672)	(9,024)	1,154
Effect of exchange rate changes on cash and cash equivalents	(286)	138	72
Net increase (decrease) in cash and cash equivalents	4,716	(351)	125
Cash and cash equivalents at the beginning of the year	5,469	5,820	5,695
Cash and cash equivalents at the end of the year	$ 10,185	$ 5,469	$ 5,820
Cash paid for:			
Income taxes paid	$ 5,870	$ 4,551	$ 5,605
Interest paid	1,637	1,956	$ 1,384

See accompanying notes to consolidated financial statements.

Note 1. Description of Business and Summary of Significant Accounting Policies

Description of Business

In this annual report on Form 10-K, Mesa Laboratories, Inc., a Colorado corporation, together with its subsidiaries is collectively referred to as "we," "us," "our," the "Company" or "Mesa."

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 in which we can establish a strong presence and achieve high gross margins. We are organized into four segments, or divisions across ten physical locations. Our Sterilization and Disinfection Control Division manufactures and sells biological, cleaning, and chemical indicators. Biological, cleaning, and chemical indicators are used to assess the effectiveness of sterilization and disinfection processes in the hospital, dental, medical device, and pharmaceutical industries. The division also provides testing and laboratory services, mainly to the dental industry. 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 thermal packaging products such as coolers, boxes, insulation materials, and phase-change products to control temperature during the customer's transport of their own products.

Principals of Consolidation and Basis of Presentation

Our Consolidated Financial Statements are prepared in accordance with accounting principles generally accepted in the United States ("GAAP") and include our accounts and our wholly owned subsidiaries after elimination of all intercompany accounts and transactions.

Reclassification

Certain prior period amounts have been reclassified to conform to the current year presentation. Specifically, $2,214 and $2,455 have been reclassified out of revenues from services and into product revenues for the years ended March 31, 2018 and March 31, 2017, respectively. Additionally, $905 and $9,554 was reclassified out of cash flows from operating activities and into cash flows from financing activities for the years ended March 31, 2018 and March 31, 2017, respectively.

Management Estimates

The preparation of our Consolidated Financial Statements in conformity with GAAP requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses and the disclosure of contingent assets and liabilities in our Consolidated Financial Statements and accompanying notes. Actual results could differ from our estimates under different assumptions or conditions.

Summary of Significant Accounting Policies

Revenue Recognition

Our revenues come from product sales, which include hardware and software, and consumables; as well as services, which include installation, discrete maintenance services, and ongoing maintenance contracts. We generally recognize revenues as follows:

Product sales: Substantially all of our revenues and related receivables are generated from contracts with customers that are 12 months or less in duration. Evidence of an arrangement is typically in the form of a purchase order. Revenue is recognized when performance obligations under the terms of the contracts with our customers are satisfied, typically by shipping ordered products.

Services: We generally generate service revenues from three categories: 1) discrete installation of our hardware and software, 2) discrete but recurring calibration and maintenance of our hardware or, 3) contracted and recurring testing and maintenance services and software license subscriptions. Evidence of a service arrangement may be in the form of a formal contract or a purchase order. Typically, discrete service revenue is recognized upon customer's acknowledgment of completion of the service, while contracted revenue is recognized over a period of time reflective of the performance obligation period in the applicable contract.

For all revenue arrangements, prices are fixed at the time of purchase and no price protections or variables are offered. Collectability is reasonably assured through our customer credit and review process, and payment is typically due within 60 days or less. We adopted the practical expedient available in Accounting Standards Update 606 and we expense commission costs as incurred. For the vast majority of our contracts that have an original duration of one year or less, we have elected the practical expedient applicable to such contracts and have not disclosed the transaction price for future performance obligations as of the end of each reporting period or when the company expects to recognize sales.

Shipping and handling

Payments by customers to us for shipping and handling costs are included in revenues on the consolidated statements of operations, while our expense is included in cost of revenues. Shipping and handling for inventory and materials purchased by us is included as a component of inventory on the consolidated balance sheets, and in cost of revenues when the product is sold.

Unearned Revenues
Certain of our products have associated annual service contracts whereby we provide repair, technical support, and various other analytical or maintenance services. In the event that these contracts are paid up front by the customer, the associated amounts are deferred and recognized ratably over the term of the service period, generally one year.

Accrued Warranty Expense
We provide limited product warranty on our products and, accordingly, accrue an estimate of the related warranty expense at the time of sale.

Cash and Equivalents
We classify all highly liquid investments with a maturity of three months or less at the date of purchase as cash equivalents.

Accounts Receivable and Allowance for Doubtful Accounts
All trade accounts are reported at net realizable value on the accompanying Consolidated Balance Sheets, adjusted for any write-offs and net of allowances for doubtful accounts. The allowance for doubtful accounts represents our best estimate of the credit losses expected from our trade accounts. We use judgment about the timing, frequency, and severity of credit losses to determine the allowances, and a difference from our original judgment could materially affect the provision for credit losses and, therefore, net earnings. We regularly perform detailed reviews of our receivables to determine if an impairment has occurred and we evaluate the collectability of receivables based on a combination of various financial and qualitative factors that may affect customers' ability to pay, including customers' financial condition, and history of payment. In circumstances where we are aware of a specific customer's inability to meet its financial obligations, a specific reserve is recorded against amounts due to reduce the recognized receivable to the amount reasonably expected to be collected. Additions to the allowances for doubtful accounts are charged to current period earnings, amounts determined to be uncollectible are charged directly against the allowances, while amounts recovered on previously written-off accounts increase the allowances. If the financial condition of our customers were to deteriorate, resulting in an impairment of their ability to make payments, additional reserves would be required. We do not believe that trade accounts receivable represent significant concentrations of credit risk because of the diversified portfolio of individual customers and geographical areas. We recorded $13, $17 and $68 of expense associated with doubtful accounts for the years ended March 31, 2019, 2018 and 2017, respectively.

Inventories
Inventories include the costs of materials, labor, and overhead. Inventories are stated at the lower of cost or net realizable value, using the weighted average method to determine cost. We evaluate labor and overhead costs annually, unless specific circumstances necessitate a mid-year evaluation. Our work in process and finished goods inventory includes raw materials, labor and overhead, which are estimated based on trailing twelve months of expense and standard labor hours for each product. Our biological indicator inventory is tracked by lot number, thus it is generally based on actual hours.

We monitor inventory cost compared to selling price in order to determine if a lower of cost or net realizable value reserve is necessary. Throughout the year, we perform various physical cycle count procedures on our inventories and we estimate and maintain an inventory reserve, as needed, for such matters as obsolete inventory, shrink and scrap.

Property, Plant and Equipment
Property, plant and equipment are stated at cost. Expenditures for major renewals and improvements are capitalized, while expenditures for minor replacements, maintenance and repairs are expensed as incurred. Depreciation is calculated using the straight-line method over the estimated useful lives of our assets. Upon retirement or disposal of assets, the accounts are relieved of cost and accumulated depreciation and any related gain or loss is reflected in other expense, net in the accompanying Consolidated Statements of Operations. At least annually, we evaluate, and adjust when necessary, the estimated lives of property, plant and equipment. Any changes in estimated useful lives are recorded prospectively. Estimated useful lives of depreciable assets are as follows:

Category	**Useful Lives**
Buildings (years)	40
Manufacturing Equipment (years or less)	7
Computer equipment (years or less)	3

Land is not depreciated and construction in progress is not depreciated until placed in service.

Goodwill and Intangible Assets
Goodwill and other intangible assets result from our acquisition of existing businesses. Goodwill and indefinite-lived intangible assets (trademarks) are not subject to amortization, but instead are tested for impairment at least annually or when events or changes in circumstances indicate that the carrying amount may not be recoverable, and we are required to record any necessary impairment adjustments. Impairment is measured as the excess of the carrying value over the fair value of the goodwill. We perform impairment tests of goodwill at our reporting unit level, which is one level below our operating segments.

We determine the useful lives of our finite intangible assets after considering the specific facts and circumstances related to each intangible asset. Factors we consider when determining useful lives include the contractual term of any agreement related to the asset, the historical performance of the asset, our long-term strategy for using the asset, any laws or other local regulations which could impact the useful life of the asset and other economic factors, including competition and specific market conditions. Intangible assets that are deemed to have definite lives are amortized on a straight-line basis, over their useful lives, generally ranging from three to 16 years (See Note 5. "Goodwill and Long-Lived Assets"). Finite-lived intangible assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. For the purposes of reviewing finite-lived assets for potential impairment, assets are grouped at the asset group level.

The fair value measurement for asset impairment is based on Level 3 inputs. See "Fair Value Measurements" below for a description of level inputs. We first compare the carrying value of the asset to the asset's estimated future undiscounted cash flows. If the estimated undiscounted future cash flows are less than the carrying value of the asset, we determine if we have an impairment loss by comparing the carrying value of the asset to the asset's estimated fair value. The estimated fair value of the asset is generally determined using a discounted cash flow projection model. In certain cases, management uses other market information, when available, to estimate the fair value of an asset. The impairment charges represent the excess of each asset's carrying amount over its estimated fair value.

Research & Development Costs

We conduct research and development activities for the purpose of developing new products and enhancing the functionality, effectiveness, reliability, and accuracy of existing products. Research and development expense is predominantly comprised of labor costs and third-party consultants. Research and development costs are expensed as incurred.

Stock-based Compensation

We issue shares in the form of stock options and full-value awards as part of employee compensation pursuant to the Mesa Laboratories, Inc. 2014 Equity Plan ("The 2014 Equity Plan"). Stock options and stock awards generally vest equally over five years and stock options generally expire after six years. Stock-based compensation expense is generally recognized on a straight-line basis over the vesting period of the award. We estimate forfeitures based on historical data when determining the amount of stock-based compensation costs to be recognized in each period and changed our methodology to applying the forfeiture to using a dynamic forfeiture model, instead of a static forfeiture model during the year ended March 31, 2019. Stock awards with performance conditions generally vest based on our achievement versus stated targets or criteria over a three-year performance and approximately three-year service period. Compensation expense on stock awards subject to performance conditions, which is based on the quantity of awards we have determined are probable of vesting, is recognized over the longer of the estimated performance goal attainment period or time vesting period. We allocate stock-based compensation expense to cost of revenues and general and administrative expense in the Consolidated Statements of Operations. Refer to Note 8. "Stock Transactions and Stock-Based Compensation" for additional information on stock-based compensation expense.

Income Taxes

Income tax expense includes U.S., state, local and international income taxes, plus a provision for U.S. taxes on undistributed earnings of foreign subsidiaries and other prescribed foreign entities not deemed to be indefinitely reinvested. Deferred tax assets and liabilities are recognized for the tax consequences of temporary differences between the financial reporting basis and the tax basis of existing assets and liabilities. The tax rate used to determine the deferred tax assets and liabilities is the enacted tax rate for the year and manner in which the differences are expected to reverse. Valuation allowances are recorded to reduce deferred tax assets to the amount that will more likely than not be realized.

We are involved in various tax matters, with respect to some of which the outcome is uncertain. We establish reserves to remove some or all of the tax benefit of any of our tax positions at the time we determine that it becomes uncertain based upon one of the following conditions: (1) the tax position is not "more likely than not" to be sustained, (2) the tax position is "more likely than not" to be sustained, but for a lesser amount, or (3) the tax position is "more likely than not" to be sustained, but not in the financial period in which the tax position was originally taken. For purposes of evaluating whether or not a tax position is uncertain, (1) we presume the tax position will be examined by the relevant taxing authority that has full knowledge of all relevant information; (2) the technical merits of a tax position are derived from authorities such as legislation and statutes, legislative intent, regulations, rulings and case law and their applicability to the facts and circumstances of the tax position; and (3) each tax position is evaluated without consideration of the possibility of offset or aggregation with other tax positions taken. A number of years may elapse before a particular uncertain tax position is audited and finally resolved or when a tax assessment is raised. The number of years subject to tax assessments varies depending on the tax jurisdiction. The tax benefit that has been previously reserved because of a failure to meet the "more likely than not" recognition threshold would be recognized in income tax expense in the first interim period when the uncertainty disappears under any one of the following conditions: (1) the tax position is "more likely than not" to be sustained, (2) the tax position, amount, and/or timing is ultimately settled through negotiation or litigation, or (3) the statute of limitations for the tax position has expired (See Note 11. "Income Taxes").

Acquisition Related Contingent Consideration Liabilities

Acquisition related contingent consideration liabilities consist of estimated amounts due under various acquisition agreements and is typically based on either revenues growth or specified profitability growth metrics. At each reporting period, we evaluate the expected future payments and the associated discount rate to determine the fair value of the contingent consideration, and record any necessary adjustments in other expense, net on the Consolidated Statements of Operations.

Legal Contingencies

We are involved in various claims and legal proceedings that arise in the normal course of business. We record an accrual for legal contingencies when we determine that it is probable that we have incurred a liability and we can reasonably estimate the amount of the loss (See Note 12. "Commitments and Contingencies").

Fair Value Measurements

Our financial instruments include cash and cash equivalents, accounts receivable, accounts payable, accrued liabilities and long-term debt. The carrying value of these financial instruments (other than acquisition related contingent consideration liabilities, see above) is considered to be representative of their fair value due to the short maturity of these instruments. Our debt has a variable interest rate, so the carrying amount approximates fair value because interest rates on these instruments approximate the interest rate on debt with similar terms available to us. Fair value is the price we would receive to sell an asset or pay to transfer a liability (exit price) in an orderly transaction between market participants. For assets and liabilities recorded or disclosed at fair value on a recurring basis, we determine fair value based on the following:

Level 1: Quoted prices in active markets for identical assets or liabilities that the entity has the ability to access.

Level 2: Observable inputs other than prices included in Level 1, such as quoted prices for similar assets and liabilities in active markets; quoted prices for identical or similar assets and liabilities in markets that are not active; or other inputs that are observable or can be corroborated with observable market data.

Level 3: Unobservable inputs for the asset or liability. This includes certain pricing models, discounted cash flow methodologies and similar techniques that use significant unobservable inputs.

Acquisitions

For the years ended March 31, 2019, 2018, and 2017, our acquisitions of businesses (net of cash acquired) totaled $4,840, $15,518 and $8,622, respectively, of which none were individually material in nature. Subsequent to March 31, 2019, we acquired a business for $2,804.

Recently Issued Accounting Pronouncements

In February 2016, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2016-02, *Leases (Topic 842)*, as amended by multiple standard updates. The pronouncement requires lessees to recognize a liability for lease obligations, which represents the discounted obligation to make future minimum lease payments, and a corresponding right-of-use asset on the balance sheet for all leases with terms greater than 12 months. The guidance also requires qualitative and quantitative disclosures designed to present financial statement users with the ability to assess the amount, timing, and uncertainty of cash flows arising from leases. We have initiated our plan for the adoption and implementation of this new accounting standard, including assessing our lease arrangements, evaluating practical expedients, and making necessary changes to our accounting policies, processes, and internal controls over financial reporting. We expect to adopt the standard using the optional transition method, which will allow us to apply the standard as of the effective date, therefore we will not apply changes to comparative periods presented in our financial statements. We expect the right-of-use asset and lease liability to be approximately $1,400, and ASU 2016-02 will not significantly impact our consolidated statements of operations and cash flows.

Recently Adopted Accounting Pronouncements

In August 2018, the Securities and Exchange Commission ("SEC") issued Release No. 33-10532 that amends and clarifies certain financial reporting requirements. The principal change to our financial reporting is the inclusion of the annual disclosure requirement of changes in stockholders' equity in Rule 3-04 of Regulation S-X to interim periods. We adopted this new rule beginning the quarter ended December 31, 2018 and will continue including the Consolidated Statements of Stockholders' Equity with each quarterly filing on Form 10-Q.

During the year ended March 31, 2019, we elected to early-adopt ASU 2018-15 *Intangibles – Goodwill and Other Internal-Use Software: Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract* ("ASU 2018-15") on a prospective basis. ASU 2018-15 aligns the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs of other internal-use software arrangements. Accordingly, we capitalized $206 of costs incurred during the year ended March 31, 2019 primarily to implement a hosted enterprise resource planning system to our European subsidiaries. The related assets are held in prepaid expenses and other on our Consolidated Balance Sheets, and we began amortizing the expense of those assets that were placed in service to general and administrative costs on our Consolidated Statements of Operations on a straight-line basis over the contractual term of the arrangement. Total depreciation expense for hosted software arrangements was $41 for the year ended March 31, 2019 and the related assets are expected to be depreciated over approximately two years.

Effective April 1, 2018, we adopted ASU 2014-09 *Revenue from Contracts with Customers (Topic 606)* and all related amendments (referred to collectively hereinafter as "ASU 606") to all contracts on a modified retrospective basis. ASU 606 requires an entity to recognize revenue for the transfer of goods or services equal to the amount it expects to be entitled to receive for the goods and services. The adoption did not have a material impact on our Consolidated Balance Sheets, Statements of Operations, or Cash Flows. The primary impact of adoption was the enhancement of disclosures to provide additional clarity regarding how revenue is earned and recognized, and to show revenues at a more disaggregated level, included in Note 2. "Revenue Recognition."

In March 2018, the FASB issued ASU 2018-05, Amendments to SEC Paragraphs Pursuant to SEC Staff Accounting Bulletin No. 118. We adopted the ASU immediately upon release. The amendments in the update provide guidance on when to record and disclose provisional amounts for certain income tax effects of the Tax Cuts and Jobs Act ("TCJA"). The amendments also require any provisional amounts or subsequent adjustments to be included in net income from continuing operations. Additionally, this ASU discusses required disclosures that an entity must make with regard to the TCJA. As of the year ended March 31, 2019, we have completed our analysis of the TCJA's income tax effects. Refer to Note 11. "Income Taxes" for additional information on the TCJA.

The TCJA created a new requirement that global intangible low taxed income earned by controlled foreign corporations ("CFCs") must be included currently in the gross income of the CFC's U.S. shareholder. Under U.S. GAAP, we are allowed to make an accounting policy choice of how GILTI taxes are treated. We have elected to treat taxes due on future U.S. inclusions in taxable income related to GILTI as current period expenses when incurred ("the period cost method").

Note 2. Revenue Recognition

We design, manufacture, market, sell, and maintain quality control instruments and software, consumables, and services driven primarily by the regulatory requirements of niche markets. Our consumables, such as biological indicator test strips and packaging materials, are typically used on a standalone basis; however, some, such as calibration solutions, are also critical to the ongoing use of our instruments. Hardware and software sales, such as medical meters, wireless sensor systems, and data loggers are generally driven by our acquisition of new customers, growth of existing customers, or customer replacement of existing equipment. Hardware sales may be offered with perpetual or annual software licenses, which in some cases are required for the hardware to function. We evaluate our revenues internally both by product line as well as by timing of revenue generation and nature of goods and services provided. Typically, discrete revenue is recognized at the shipping point or upon completion of the service, while contracted revenue is recognized over a period of time reflective of the performance obligation period in the applicable contract.

Our performance obligations related to the sale of instruments and consumables generally consist of the promise to sell tangible goods to distributors or end users. Ownership of these goods is typically transferred at time of shipment, at which point we have satisfied our performance obligation and we recognize revenue.

Our performance obligations related to services may include testing, installation, and/or maintenance of our products, either on-site at our customers' facilities or in our own calibration laboratories. Performance obligations arise from service contracts when discrete services are contracted in advance and performed at a future time, often at the time of the customer's choosing. In this case, the performance obligation is satisfied, and revenue is recognized, upon the customer's acceptance of the completion of the specified work. Alternatively, service revenue may be recognized for contracted services or maintenance provided continually over a period of time, and our performance obligations are satisfied by completing any service that is contractually required, if applicable, or simply by the passage of time if no services are required or requested. For contracted services, revenue is recognized on a straight-line basis over the life of the service contract, which is a faithful depiction of these annual service contracts, which may or may not be invoked.

The following tables present disaggregated revenues for the years ended March 31, 2019, 2018, and 2017:

	Year Ended March 31, 2019				
	Sterilization and Disinfection Control	Instruments	Cold Chain Monitoring	Cold Chain Packaging	Total
Discrete Revenues					
Consumables	$ 39,670	$ 3,101	$ 388	$ 6,430	$ 49,589
Hardware and Software	580	24,500	6,987	142	32,209
Services	1,209	8,524	2,001	335	12,069
Contracted Revenues					
Services	4,838	--	4,430	--	9,268
Total Revenues	$ 46,297	$ 36,125	$ 13,806	$ 6,907	$ 103,135

	Year Ended March 31, 2018				
	Sterilization and Disinfection Control	Instruments	Cold Chain Monitoring	Cold Chain Packaging	Total
Discrete Revenues					
Consumables	$ 36,436	$ 3,080	$ 261	$ 5,197	$ 44,974
Hardware and Software	925	23,345	5,051	91	29,412
Services	1,110	7,679	2,017	549	11,355
Contracted Revenues					
Services	4,789	--	5,649	--	10,438
Total Revenues	$ 43,260	$ 34,104	$ 12,978	$ 5,837	$ 96,179

	Year Ended March 31, 2017				
	Sterilization and Disinfection Control	Instruments	Cold Chain Monitoring	Cold Chain Packaging	Total
Discrete Revenues					
Consumables	$ 31,851	$ 2,917	$ 175	$ 7,005	$ 41,948
Hardware and Software	693	24,098	6,748	23	31,562
Services	1,351	7,390	2,848	1,013	12,602
Contracted Revenues					
Services	4,740	--	2,813	--	7,553
Total Revenues	$ 38,635	$ 34,405	$ 12,584	$ 8,041	$ 93,665

Contract Balances

Our contracts have varying payment terms and conditions. Some customers prepay for services, resulting in unearned revenues or customer deposits, called contract liabilities, which are included within other accrued expenses and unearned revenues in the accompanying Consolidated Balance Sheets. Contract assets would exist when sales are recorded (i.e. the control of the goods or services has been transferred to the customer), but customer payment is contingent on a future event besides the passage of time (such as satisfaction of additional performance obligations). We do not have any contract assets. Unbilled receivables, which are not classified as contract assets, represent arrangements in which sales have been recorded prior to billing and right to payment is unconditional.

A summary of contract liabilities is as follows:

Contract liabilities balance as of March 31, 2018	$ 4,147
Prior year liabilities recognized in revenues during the year ended March 31, 2019	(4,629)
Contract liabilities added during the year ended March 31, 2019, net of revenues recognized	4,908
Contract liabilities balance as of March 31, 2019	$ 4,426

Note 3. Inventories

Inventories were as follows:

	March 31, 2019	March 31, 2018
Raw materials	$ 6,804	$ 9,059
Work-in-process	428	380
Finished goods	2,524	3,152
Less: reserve	(2,984)	(3,363)
Inventories, net	$ 6,772	$ 9,228

Note 4. Property, Plant and Equipment

Property, plant and equipment were as follows:

	March 31, 2019	March 31, 2018
Land	$ 889	$ 889
Buildings	18,648	18,543
Manufacturing equipment	8,732	9,156
Computer equipment	3,698	3,459
Construction in progress	107	60
Other	1,393	1,221
Gross total	33,467	33,328
Accumulated depreciation	(11,242)	(9,735)
Property, plant, and equipment, net	$ 22,225	$ 23,593

Depreciation expense for the years ended March 31, 2019, 2018 and 2017 was $2,338, $2,542, and $2,287 respectively.

Note 5. Goodwill and Long-Lived Assets

During the three months ended March 31, 2019, the largest customer of our Cold Chain Packaging reporting segment provided 90-day notice that they are terminating their purchase contract with us. As a result, we performed an impairment analysis on the segment, which accounts for the expected loss of the customer. We determined that the long-lived assets and goodwill associated with our Cold Chain Packaging reporting segment were impaired and we recognized a non-cash impairment charge of $47 on goodwill, $737 on long-lived intangible assets, and $229 on property plant and equipment, which is recorded in impairment loss on goodwill and long-lived assets on the accompanying Consolidated Statements of Operations.

During the three months ended December 31, 2018, we performed an impairment analysis on our Cold Chain Packaging reporting segment as the segment's financial results continued to fall short of expectations. Specifically, rising commodity costs used in the segment's principal product have increased over the past year, eroding the gross profit margin of the segment. We determined that the long-lived assets and goodwill associated with our Cold Chain Packaging reporting segment were impaired and we recognized non-cash impairment charge of $1,028 on goodwill and $2,641 on long-lived assets, in impairment loss on goodwill and long-lived assets on the accompanying Consolidated Statements of Operations.

During the year ended March 31, 2018, revenues in our Cold Chain Packaging reporting segment decreased significantly as compared to the prior year primarily due to a significant decrease in revenues from our largest customer. As a result of this and other related events, we reviewed the long-lived assets associated with this reporting segment and recorded a $13,819 impairment charge during the year ended March 31, 2018.

After the charges recorded, the remaining value of intangible assets and property, plant and equipment associated with the Cold Chain Packaging reporting segment are $54 and $17, respectively as of March 31, 2019. The fair value of the impaired assets was determined using Level 3 inputs (unobservable inputs) based on a discounted cash flow method.

Within the next 12 months, we intend to exit the Cold Chain Packaging business. We intend to cease accepting new customers, and to gradually curtail sales and expenses related to existing customers. The Cold Chain Packaging division had sales of $6,907 during the year ended March 31, 2019. We are targeting to exit by or before March 31, 2020.

The change in the carrying amount of goodwill was as follows:

	Sterilization and Disinfection Control	Instruments	Cold Chain Monitoring	Cold Chain Packaging	Total
March 31, 2017	$ 24,019	$ 18,235	$ 15,404	$ 14,498	$ 72,156
Effect of foreign currency translation	536	--	--	722	1,258
Acquisitions	5,948	--	--	--	5,948
Impairment	--	--	--	(13,819)	(13,819)
March 31, 2018	30,503	18,235	15,404	1,401	65,543
Effect of foreign currency translation	(723)	--	--	(67)	(790)
Acquisitions	--	--	2,699	--	2,699
Impairment	--	--	--	(1,075)	(1,075)
March 31, 2019	$ 29,780	$ 18,235	$ 18,103	$ 259	$ 66,377

Other intangible assets are as follows:

	March 31, 2019			
	Carrying Amount	Accumulated Amortization	Net	Useful Life (Years)
Intellectual property	$ 7,690	$ (5,301)	$ 2,389	10-16
Trade names	3,739	(2,542)	1,197	3-10
Customer relationships	61,198	(31,584)	29,614	7-10
Non-compete agreements	1,581	(1,562)	19	3-10
Total	$ 74,208	$ (40,989)	$ 33,219	

	March 31, 2018			
	Carrying Amount	Accumulated Amortization	Net	Useful Life (Years)
Intellectual property	$ 7,210	$ (4,554)	$ 2,656	10-16
Trade names	3,675	(2,154)	1,521	3-10
Customer relationships	64,363	(26,128)	38,235	7-10
Non-compete agreements	1,865	(1,427)	438	3-10
Total	$ 77,113	$ (34,263)	$ 42,850	

The following is estimated amortization expense for the years ending March 31:

2020	$	6,500
2021		5,455
2022		5,090
2023		4,862
2024		4,346

Amortization expense for the years ended March 31, 2019, 2018 and 2017 was $7,090, $6,929, and $6,450, respectively.

Note 6. Restructuring and Relocation Costs

Cold Chain Packaging

In March 2019, we announced that we will consolidate certain corporate administrative functions being performed in our Markham, Canada offices into our existing Lakewood, Colorado offices, and will close our Markham, Canada offices during the year ending March 31, 2020. Certain affected employees were offered an opportunity to continue in the organization, while most were offered a severance package. Costs associated with the closure are associated to the Cold Chain Packaging Reporting unit, or to general corporate costs. We recorded severance as a contractual termination benefit and recognized the expense of the qualified restructuring cost during the year ended March 31, 2019. We will record a liability for lease termination costs consisting of the net present value of remaining lease obligations, net of estimated sublease rentals that could be reasonably obtained, at the date we cease using the property, and measure fair value using Level 3 inputs (unobservable inputs). All other costs, including relocation costs, other office closure costs, and third-party costs, are recognized in the period incurred.

During the year ended March 31, 2019, we recorded $150 related to employee severance and other transition costs into cost of sales, selling, or general and administrative costs on our Consolidated Statements of Operations, and we recorded a corresponding liability in accrued salaries and payroll taxes on our Consolidated Balance Sheets. During the year ending March 31, 2020, we expect to incur additional restructuring costs of $150 to $220, consisting of: between $65 to $100 of employee relocation costs, $10 to $20 of third-party costs, and $75-$100 of lease termination and other office closure costs.

Sterilization and Disinfection Control

In August 2016, we announced that we planned to shut down both our Omaha and Traverse City manufacturing facilities and relocate those operations to the new Bozeman building. The move of those two facilities, along with the current Bozeman operations, began in March 2017 and was completed as of June 30, 2018. The total cost of the relocation was $1,584 (which is comprised primarily of facility moving expenses, retention bonuses for existing personnel and payroll costs for duplicative personnel during the transition period) and these costs pertain to the Sterilization and Disinfection Control Division.

Facility relocation amounts accrued and paid for the year ended March 31, 2019 are as follows:

Balance at March 31, 2018	408
Facility Relocation Expense	17
Cash payments	(425)
Balance at March 31, 2019	-

We completed the sale of our old Bozeman facility during the year ended March 31, 2019, for $2,222 (net of commissions) resulting in a gain of $288, which is recorded in other (income) expense, net on our Consolidated Statements of Operations.

Note 7. Long-term Debt

Long-term debt consists of the following:

	March 31, 2019	March 31, 2018
Line of credit (4.000%, as of March 31, 2019)	$ 6,000	$ 28,000
Term loan (4.000% as of March 31, 2019)	17,000	18,625
Less: discount	(262)	(365)
Less: current portion	(2,125)	(1,625)
Long-term portion	$ 20,613	$ 44,635

On March 1, 2017, we entered into a five-year agreement (the "Credit Facility") for an $80,000 revolving line of credit ("Line of Credit"), a $20,000 term loan ("Term Loan") and up to $2,500 of letters of credit with a banking syndicate of four banks. In addition, the Credit Facility provides a post-closing accordion feature which allows for the Company to request to increase the Line of Credit or Term Loan up to an additional $100,000.

Line of Credit and Term Loan indebtedness bears interest at either: (1) LIBOR, as defined, plus an applicable margin ranging from 1.5% to 2.5%; 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%. We elect the interest rate with each borrowing under the line of credit. In addition, there is an unused line fee of 0.15% to 0.35%. Letter of credit fees are based on the applicable LIBOR rate.

The Term Loan requires 20 quarterly principal payments (the first due date was March 31, 2017) in the amount of $250 (increasing by $125 each year up to $750 in the fifth year). The remaining balance of principal and accrued interest are due on March 1, 2022.

The Credit Facility is secured by all of our assets and requires us to maintain a ratio of funded debt to our trailing four quarters of EBIDTA (the "Leverage Ratio"), as defined in the agreement, of less than 3.0 to 1.0, provided that, we may once during the term of the Credit Facility, in connection with a Permitted Acquisition for which the aggregate consideration paid or to be paid in respect thereof equals or exceeds $20,000, elect to increase the maximum Leverage Ratio permitted hereunder to (i) 3.5 to 1.0 for a period of four consecutive fiscal quarters commencing with the fiscal quarter in which such Permitted Acquisition occurs (the "Initial Holiday Period") and (ii) 3.25 to 1.0 for the period of four consecutive fiscal quarters immediately following the Initial Holiday Period. The Credit Facility also requires us to maintain a minimum fixed charge coverage ratio of less than 1.25 to 1.0. We were in compliance with the required covenants at March 31, 2019.

Future contractual maturities of debt as of March 31, 2019 are as follows:

For the year ending March 31,	
2020	$ 2,125
2021	2,625
2022	18,250
Total	$ 23,000

Subsequent to March 31, 2019, we made $2,500 in payments under the Line of Credit.

Note 8. Stock Transactions and Stock-Based Compensation

In November 2005, our Board of Directors approved a program to repurchase up to 300,000 shares of our outstanding common stock. Under the program, shares of common stock may be purchased from time to time in the open market at prevailing prices or in negotiated transactions off the market. Shares of common stock purchased will be cancelled and repurchases of shares of common stock will be funded through existing cash reserves. There were no repurchases of our shares of common stock under this plan during the years ended March 31, 2019, 2018, and 2017. As of March 31, 2019, we have purchased 162,486 shares under this plan.

Under applicable law, Colorado corporations are not permitted to retain treasury stock. The price paid for repurchased shares is allocated between common stock and retained earnings, based on management's estimate of the original sales price of the underlying shares.

Pursuant to the Mesa Laboratories, Inc. 2014 Equity Plan, we grant stock options, restricted stock units ("RSUs") and performance-based restricted stock units ("PSUs") to employees and non-employee directors. We issue shares of common stock upon the exercise of stock options and the vesting of RSUs and PSUs. Shares issued pursuant to awards granted prior to The 2014 Equity Plan were issued subject to previous stock plans, and some vested and unvested awards are still outstanding under previous plans. For the purposes of counting the shares remaining as available under The 2014 Equity Plan, each share issuable pursuant to outstanding full value awards, such as RSUs and PSUs, counts as five shares issued, whereas each share underlying a stock option counts as one share issued. Under the 2014 Plan, 1,100,000 shares of common stock have been authorized and reserved for eligible participants, of which 613,893 shares were available for future grants as of March 31, 2019.

Stock-based compensation expense recognized in the Consolidated Financial Statements was as follows:

	Year Ended March 31,		
	2019	2018	2017
Stock-based compensation expense (A)	$ 4,212	$ 1,672	$ 1,411
Amount of income tax (benefit) expense recognized in earnings	(2,370)	(1,194)	(1,737)
Stock-based compensation expense (benefit), net of tax	$ 1,842	$ 478	$ (326)

(A) During the year ended March 31, 2019, we implemented a new full-administration equity compensation platform, and as a result, changed the methodology used to account for estimated forfeitures from a static method to a dynamic method. This change resulted in a one-time cumulative increase in expense of $945, recognized during the year ended March 31, 2019.

Stock Options

Stock option activity under The 2006 Equity Compensation plan and The 2014 Equity Plan was as follows (shares and dollars in thousands, except per-share data):

	Shares Subject to Options	Weighted Average Exercise Price Per Share	Weighted-Average Remaining Contractual Life (Years)	Aggregate Intrinsic Value
Outstanding, April 1, 2018	458	$ 86.38	4.5	$ 28,445
Awards granted	26	144.96		
Awards forfeited or expired	(38)	99.00		
Awards exercised	(92)	67.84		
Outstanding, March 31, 2019	354	94.04	3.8	48,301
Exercisable, March 31, 2019	121	78.30	3.5	18,374
Vested and expected to vest, March 31, 2019	331	93.29	3.8	45,463

The total intrinsic value of stock options exercised during the years ended March 31, 2019, 2018 and 2017 was $10,895, $6,309, and $7,574, respectively. Unrecognized stock-based compensation expense for stock options as of March 31, 2019 was $5,661 and is expected to be recognized over a weighted average period of 3.3 years. The total fair value of options vested was $2,400, $1,927 and $1,432 during the years ended March 31, 2019, 2018, and 2017, respectively.

The weighted average assumptions utilized in the Black-Scholes option-pricing model to estimate the fair value of stock option awards granted each year were as follows:

	2019	2018	2017
Risk-free interest rate	2.63%	1.88%	1.56%
Expected life (years)	5.00	5.52	5.47
Expected dividend yield	0.45%	0.54%	0.64%
Volatility	35.96%	32.92%	32.34%
Weighted-average Black-Scholes fair value per share at date of grant	$ 54.02	$ 39.06	$ 31.27

The expected life of options represents the estimated period of time until exercise and is based on historical experience of similar awards, giving consideration to the contractual terms, vesting schedules, and expectations of future employee behavior. Expected stock price volatility is based on historical volatility of our own stock price over the period of time commensurate with the expected life of the award. The risk-free rate is based on the United States Treasury yield curve in effect at the time of grant for the estimated life of the stock option. The dividend yield is calculated based upon the dividend payments made during the prior four quarters as a percent of the average stock price for that period. The amounts shown above for the estimated fair value per option granted are before the estimated effect of forfeitures, which reduces the amount of expense recorded in our Consolidated Statements of Operations. We base forfeiture rates on company-specific historical experience of similar awards for similar subsets of our employee population.

Restricted Stock Units (RSUs)

RSU activity under The 2014 Equity Plan was as follows (shares and dollars in thousands, except per-share data):

	Number of Shares	Weighted-Average Grant Date Fair Value per Share	Weighted-Average Remaining Contractual Life (Years)	Aggregate Intrinsic Value
Outstanding at March 31, 2018	8	$ 126.03	4.5	982
Awards granted	29	171.13		
Awards forfeited or expired	(3)	168.24		
Awards vested	(3)	149.44		
Outstanding as of March 31, 2019	31	$ 162.23	2.1	7,155

There were 28 RSUs with a weighted average grant date fair value per share of $163.93 that were vested and expected to vest as of March 31, 2019. For the years ended March 31, 2018 and 2017, the weighted average fair value per RSU granted was $136.26 and $122.98. Unrecognized stock-based compensation expense for RSUs that we have determined are probable of vesting was $4,018 as of March 31, 2019 and is expected to be recognized over a weighted average period of 2.1 years. The total fair value of RSUs vested was $460, $123, and $0 during the years ended March 31, 2019, 2018, and 2017.

As of March 31, 2019, 10 of the outstanding RSUs were subject to performance and service conditions and are considered performance share units (PSUs). During the year ended March 31, 2019, we awarded PSUs with a grant date fair value of $192.99 per share. The awards vest both based on our achievement of specific performance criteria for the three-year period from April 1, 2018 through March 31, 2021, as well as continued service through June 15, 2021. The quantity of shares that will be issued upon vesting will range from 0% to 400% of the targeted number of shares; if the defined minimum targets are not met, then no shares will vest. During the year ended March 31, 2019, 1,050 PSUs were forfeited.

Note 9. Earnings (Loss) Per Share

Basic earnings (loss) per share is computed by dividing net income (loss) by the weighted-average number of common shares outstanding during the reporting period. Diluted earnings (loss) per share is computed similarly to basic earnings (loss) per share, except that it includes the potential dilution that could occur if dilutive securities were exercised.

The following table presents a reconciliation of the denominators used in the computation of earnings (loss) per share - basic and diluted (shares in thousands):

	Year Ended March 31,		
	2019	2018	2017
Net income (loss) available for shareholders	$ 7,484	$ (2,962)	$ 11,183
Weighted average outstanding shares of common stock	3,839	3,770	3,679
Dilutive effect of stock options	186	--	165
Dilutive effect of non-vested shares	8	--	--
Fully diluted shares	4,033	3,770	3,844
Basic	$ 1.95	$ (0.79)	$ 3.04
Diluted	1.86	(0.79)	2.91

The following stock awards were excluded from the calculation of diluted EPS:

	Year Ended March 31,		
	2019	2018	2017
Stock awards that were anti-dilutive	1	106	110
Stock awards subject to performance conditions	10	--	--
Total stock awards excluded from diluted EPS	11	106	110

Note 10. Employee Benefit Plans

We adopted the Mesa Laboratories, Inc. 401(K) Retirement Plan effective January 1, 2000. We match 100% of the first 4% of pay contributed by each eligible employee and contributions are vested immediately. Participation is voluntary, and employees are eligible the first day of the month following their start date. We contributed $663, $680, and $501, respectively, to the plan for the years ended March 31, 2019, 2018 and 2017.

Note 11. Income Taxes

Earnings before income taxes are as follows:

	Year Ended March 31, 2019	2018	2017
Domestic	$ 12,133	$ 12,708	$ 12,913
Foreign	(3,510)	(12,407)	1,383
Total earnings before income taxes	$ 8,623	$ 301	$ 14,296

The components of our provision for income taxes are as follows:

	Year Ended March 31, 2019	2018	2017
Current tax provision			
U.S. Federal	$ 1,831	$ 3,732	$ 2,282
U.S. State	449	715	510
Foreign	1,166	1,299	849
Total current tax expense	3,446	5,746	3,641
Deferred tax provision:			
U.S. Federal	(741)	(1,589)	(126)
U.S. State	(106)	(216)	(32)
Foreign	(1,460)	(678)	(370)
Total deferred tax expense	(2,307)	(2,483)	(528)
Total income tax expense	$ 1,139	$ 3,263	$ 3,113

The components of net deferred tax assets and liabilities are as follows:

	March 31, 2019	March 31, 2018
Current deferred tax assets:		
Accrued employee-related expenses	$ 163	$ 277
Allowances and reserves	100	101
Stock compensation deductible differences	1,061	779
Inventories	1,534	1,388
Currency translation adjustment	(33)	51
Net operating loss	47	90
Foreign tax credit	16	100
Other	807	--
Total current deferred tax assets	3,695	2,786
Long-term deferred tax liabilities:		
Property, plant and equipment	(1,118)	(1,236)
Goodwill and intangible assets	(2,249)	(3,940)
Other	(6)	(4)
Total long-term deferred tax liabilities	(3,373)	(5,180)
Valuation allowance	(76)	(100)
Net deferred tax liability	$ 246	$ (2,494)

A reconciliation of our income tax provision and the amounts computed by applying statutory rates to income before income taxes is as follows:

	Year Ended March 31, 2019	2018	2017
Federal income taxes at statutory rates	$ 1,811	$ 93	$ 4,861
State income taxes, net of federal benefit	208	328	302
Tax benefit of stock option exercises	(2,034)	(1,087)	(1,576)
Section 199 manufacturing deduction	--	(381)	(304)
Research and development credit	(158)	(162)	(385)
Tax Cuts and Jobs Act	--	(59)	--
Impairment of non-deductible goodwill	284	4,257	--
Limitation for 162 (m)	766	--	--
Other	262	274	215
Total income tax expense	$ 1,139	$ 3,263	$ 3,113

On December 22, 2017, the Tax Cuts and Jobs Act ("TCJA") was enacted in the U.S., making significant changes to U.S. tax law. The TCJA reduces the U.S. federal corporate income tax rate from 34 percent to 21 percent, requires companies to pay a one-time transition tax on certain un-remitted earnings of foreign subsidiaries that were previously tax deferred, generally eliminates U.S. federal income tax on dividends from foreign subsidiaries, creates new taxes on certain foreign-sourced earnings, repeals the Section 199 deduction, and imposes limitations on executive compensation under Section 162(m).

We have completed our analysis of the TCJA's income tax effects. In total, the TCJA resulted in a net tax expense of $43. The final effect of the TCJA's one-time transition tax was a tax liability of $322. During the year ended March 31, 2018, we re-measured the applicable deferred tax assets and liabilities based on the rates at which they are expected to reverse. The amount recorded related to the re-measurement of our deferred tax balance was a benefit of $279.

We or one of our subsidiaries files income tax returns in the U.S. federal jurisdiction and various state and foreign jurisdictions. Our federal tax returns for all years after 2015, state tax returns after 2014 and foreign tax returns after 2014 are subject to future examination by tax authorities for all our tax jurisdictions. Although the outcome of tax audits, if any, is always uncertain, we believe that we have adequately accrued for all amounts of tax, including interest and penalties and any adjustments that may result.

As of March 31, 2019, the gross amount of unrecognized tax benefits was $1,361. There would have been no material impact on our effective tax rate for the year ended March 31, 2019 had these benefits been recognized. We recognize interest and penalties related to unrecognized tax benefits in other expense and general and administrative expense, respectively. Accrued interest and penalties related to unrecognized tax benefits were $40, $24 and $17 as of March 31, 2019, 2018 and 2017, respectively.

A reconciliation of the changes in the gross balance of unrecognized tax benefit amounts is as follows:

	Year Ended March 31, 2019	2018	2017
Beginning balance	$ 827	$ 331	$ 221
Increases related to current period tax positions	534	496	110
Ending balance	$ 1,361	$ 827	$ 331

We expect that the amount of unrecognized tax benefits will change in the next 12 months; however, we do not expect the change to have a significant impact on our consolidated statements of operations or consolidated balance sheets. At this time, we expect resolution of the uncertain tax position within 12 months.

As of March 31, 2019, undistributed earnings of our foreign subsidiaries amounted to $5,414. Those earnings are considered indefinitely reinvested and, accordingly, no U.S. federal and state income taxes have been provided thereon. Upon distribution of those earnings in the form of dividends or otherwise, we would be subject to both U.S. income taxes (subject to an adjustment for foreign tax credits) and withholding taxes payable to the various foreign countries. Determination of the amount of unrecognized deferred U.S. income tax liability is not practicable because of the complexities associated with its hypothetical calculation; however, unrecognized foreign tax credits would be available to reduce a portion of the U.S. tax liability.

As of March 31, 2019, we had $90 of net operating losses for foreign tax purposes. The foreign net operating losses do not expire. In addition, we had $16 of foreign tax credit carryovers which will expire in the tax year 2029.

Note 12. Commitments and Contingencies

In February 2018, Dr. James L. Orrington II filed a putative civil class action in the United States District Court for the Northern District of Illinois, Eastern Division, alleging that we sent unsolicited advertisements to telephone facsimile machines. The complaint includes counts alleging violations of the Telephone Consumer Protection Act ("TCPA"), the Illinois Consumer Fraud Act, Conversion, Nuisance, and Trespass to Chattels. The plaintiff seeks monetary damages, injunctive relief, and attorneys' fees. Additionally, in June 2018, Rowan Family Dentistry, Inc. filed a putative class action complaint in the United States District Court for the District of Colorado making substantially the same claims as Dr. James L. Orrington II and seeking substantially the same relief. In January 2019, we received preliminary court approval of a class action settlement with Dr. James L. Orrington II and the class in the amount of $3,300, and we received final approval on May 28, 2019. As a result of the settlement of the matter with Dr. James L. Orrington, Rowan Family Dentistry has dismissed their case against us. We have recorded the final settlement amount on our Consolidated Statements of Operations and a corresponding liability is included as legal liability on our Consolidated Balance Sheets.

Note 13. Leases

The company leases office, warehousing and manufacturing space. Total non-cancellable operating leases in effect at March 31, 2019, require rental payments of $653, $443, $230, and $48 for the years ending March 31, 2020 through 2023, respectively. Lease expense for all operating leases was $763, $735, and $655 during the years ended March 31, 2019, 2018 and 2017, respectively.

Note 14. Segment Data

Segment information is prepared on the same basis that our management reviews financial information for operational decision-making purposes. We have four operating segments: Sterilization and Disinfection Control, Instruments, Cold Chain Monitoring and Cold Chain Packaging. When determining the reportable segments, we aggregated operating segments based on their similar economic and operating characteristics. The following tables set forth our segment information:

	Year Ended March 31, 2019				
	Sterilization and Disinfection Control	Instruments	Cold Chain Monitoring	Cold Chain Packaging	Total
Revenues (1)	$ 46,297	$ 36,125	$ 13,806	$ 6,907	$ 103,135
Gross profit	$ 31,861	$ 22,866	$ 5,582	$ 607	$ 60,916
Reconciling items (2)					(52,293)
Earnings before income taxes					$ 8,623

	Year Ended March 31, 2018				
	Sterilization and Disinfection Control	Instruments	Cold Chain Monitoring	Cold Chain Packaging	Total
Revenues (1)	$ 43,260	$ 34,104	$ 12,978	$ 5,837	$ 96,179
Gross profit	$ 29,333	$ 20,395	$ 3,854	$ 1,037	$ 54,619
Reconciling items (2)					(54,318)
Earnings before income taxes					$ 301

	Year Ended March 31, 2017				
	Sterilization and Disinfection Control	Instruments	Cold Chain Monitoring	Cold Chain Packaging	Total
Revenues (1)	$ 38,635	$ 34,405	$ 12,584	$ 8,041	$ 93,665
Gross profit	$ 25,674	$ 21,037	$ 4,557	$ 1,971	$ 53,239
Reconciling items (2)					(38,943)
Earnings before income taxes					$ 14,296

(1) Intersegment revenues are not significant and are eliminated to arrive at consolidated totals.
(2) Reconciling items include selling, general and administrative, research and development, impairment loss on goodwill and long-lived assets, legal settlement, and other expenses.

The following table sets forth total assets by operating segment:

	March 31, 2019	March 31, 2018
Sterilization and Disinfection Control	$ 74,230	$ 83,452
Instruments	30,911	33,479
Cold Chain Monitoring	32,179	30,796
Cold Chain Packaging	1,590	7,091
Corporate and administrative	17,857	9,283
Total	$ 156,767	$ 164,101

All long-lived assets are located in the United States except for $5,649, $1,427, and $15,762 which are associated with our French, Canadian and German subsidiaries, respectively.

Revenues from external customers are attributed to individual countries based upon locations to which the product is shipped or exported, as follows:

	Year Ended March 31,		
	2019	2018	2017
United States	$ 64,828	$ 56,998	$ 52,989
Foreign	38,307	39,181	40,676
Total	$ 103,135	$ 96,179	$ 93,665

No foreign country exceeds 10% of total revenues.

Note 15. Quarterly Results (unaudited)

Quarterly financial information for the years ended March 31, 2019 and 2018 is summarized as follows (earnings per share per quarter will not add up to reported annual earnings per share due to differences in average outstanding shares as reported on a quarterly basis) (in thousands, except per share data):

2019	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Revenues	$ 25,142	$ 24,865	$ 26,682	$ 26,446
Gross profit	15,091	14,577	15,634	15,614
Net income	4,230	994	858	1,402
Basic earnings per share	$ 1.11	$ 0.26	$ 0.22	$ 0.36
Diluted earnings per share	1.06	0.25	0.21	0.34

2018	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Revenues	$ 22,673	$ 22,954	$ 23,671	$ 26,881
Gross profit	12,671	13,233	12,681	16,034
Net income (loss)	1,517	2,353	(11,086)	4,254
Basic earnings (loss) per share	$ 0.41	$ 0.63	$ (2.93)	$ 1.12
Diluted earnings (loss) per share	0.39	0.60	(2.93)	1.08

Note 16. Subsequent Events

In April 2019, our Board of Directors declared a quarterly cash dividend of $0.16 per share of common stock, payable on June 14, 2019, to shareholders of record at the close of business on May 31, 2019.

PART IV

ITEM 15. EXHIBITS AND CONSOLIDATED FINANCIAL STATEMENT SCHEDULES

a) Consolidated Financial Statements

The Consolidated Financial Statements of the Registrant listed on the accompanying index (please see "Item 8. Financial Statements and Supplementary Data") are filed as part of this Annual Report.

All financial statement schedules have been omitted either because they are not applicable or required, or the information that would be required to be included is disclosed in the notes to the Consolidated Financial Statements.

b) Exhibits

3.1	Articles of Incorporation and Amendments to Articles of Incorporation (incorporated by reference from exhibit 3.1 to Mesa Laboratories, Inc.'s report on Form 10-Q filed on July 31, 2018 (Commission File Number: 000-11740)).
3.2	Amended and Restated Bylaws of Mesa Laboratories, Inc. (incorporated by reference from exhibit 3.1 to the Current Report on Form 8-K filed on May 10, 2019 (Commission File Number: 000-11740)).
10.1	Credit agreement dated as of March 1, 2017 between Mesa Laboratories, Inc., JPMorgan Chase Bank, N.A., as administrative agent, and the other lenders referred to therein (incorporated by reference from Exhibit 10.1 to Mesa Laboratories, Inc.'s report on Form 8-K filed on March 2, 2017 (Commission File Number: 000-11740)).
10.2.1 *	Mesa Laboratories, Inc. 2006 Stock Compensation Plan (incorporated by reference from Exhibit 10.2.1 to Mesa Laboratories, Inc's report on Form 10-Q filed on July 31, 2018 (Commission File Number: 000-11740)).
10.2.2 *	Mesa Laboratories, Inc. 2014 Equity Plan (incorporated by reference from Exhibit 10.2.2 to Mesa Laboratories, Inc's report on Form 10-Q filed on July 31, 2018 (Commission File Number: 000-11740)).
10.3.1 *	Form of 2014 Equity Plan Option Award Agreement (incorporated by reference from Exhibit 10.3.1 to Mesa Laboratories, Inc's report on Form 10-Q filed on July 31, 2018 (Commission File Number: 000-11740)).
10.3.2 *	Form of 2014 Equity Plan Option Award Agreement as amended (incorporated by reference from Exhibit 10.3.2 to Mesa Laboratories, Inc's report on Form 10-Q filed on July 31, 2018 (Commission File Number: 000-11740)).
10.3.3 *	Form of 2014 Equity Plan Restricted Stock Award Agreement (incorporated by reference from Exhibit 10.1 to Mesa Laboratories, Inc.'s report on Form 8-K filed on June 11, 2018 (Commission File Number: 000-11740))
10.3.4 *	Form of 2014 Equity Plan Performance Share Award agreement (incorporated by reference from Exhibit 10.3.4 to Mesa Laboratories, Inc's report on Form 10-Q filed on July 31, 2018 (Commission File Number: 000-11740)).
10.4 *	Form of Confidentiality, Non-Compete and Non-Solicitation Agreement (incorporated by reference from Exhibit 10.4 to Mesa Laboratories, Inc's report on Form 10-Q filed on July 31, 2018 (Commission File Number: 000-11740)).
10.5 * á	Form of Executive Employment Agreement (incorporated by reference from Exhibit 10.1 to Mesa Laboratories, Inc.'s report on Form 8-K filed on April 11, 2017 (Commission File Number 000-11740))
21.1	Subsidiaries of Mesa Laboratories, Inc. (incorporated by reference from Exhibit 21.1 to Mesa Laboratories, Inc's report on Form 10-Q filed on July 31, 2018 (Commission File Number: 000-11740)).
23.1†	Consent of EKS&H LLLP, independent registered public accounting firm.
23.2†	Consent of Plante & Moran PLLC, independent registered public accounting firm.
31.1†	Certification of Chief Executive Officer Pursuant to Rule 13a-14(a).
31.2†	Certification of Chief Financial Officer Pursuant to Rule 13a-14(a).
32.1†	Certification of Chief Executive Officer Pursuant to 18 U.S.C. Section 1350.
32.2†	Certification of Chief Financial Officer Pursuant to 18 U.S.C. Section 1350.
101***	Consolidated Financial statements for the Annual Report on Form 10-K of Mesa Laboratories, Inc. for the annual period ended March 31, 2019, formatted in XBRL: (i) the Consolidated Balance Sheets, (ii) the Consolidated Statements of Operations, (iii) the Consolidated Statements of Comprehensive Income, (iv) the Consolidated Statements of Stockholders' Equity, (v) the Consolidated Statements of Cash Flows, and (vi) the Notes to the Consolidated Financial Statements.

* Indicates a management contract or compensatory plan, contract or arrangement.
á Mesa Laboratories, Inc. has entered into an Executive Employment Agreement with each of Gary M. Owens and John V. Sakys

*** Previously filed with our Original Filing.
† Filed or furnished herewith, as required.

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.

MESA LABORATORIES, INC.
Registrant

Date: December 13, 2019

By: /s/ Gary M. Owens
Gary M. Owens
Chief Executive Officer

EXHIBIT 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in Mesa Laboratories, Inc.'s Registration Statements on Form S-3 (File Nos. 333-233042 and 333-225451) and Form S-8 (File Nos. 333-206551, 333-186893, and 333-152210) of our report dated June 5, 2018, relating to the consolidated financial statements of Mesa Laboratories, Inc., which appears in this Annual Report on Form 10-K/A Amendment No. 2.

/s/ EKS&H LLLP
Denver, CO
December 13, 2019

EXHIBIT 23.2

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in Mesa Laboratories, Inc.'s Registration Statements on Form S-3 (File Nos. 333-233042 and 333-225451) and Form S-8 (File Nos. 333-206551, 333-186893, and 333-152210) of our report dated June 3, 2019, relating to the consolidated financial statements and the effectiveness of internal control over financial reporting of Mesa Laboratories, Inc., which appears in this Annual Report on Form 10-K/A Amendment No 2.

/s/ Plante & Moran, PLLC
Denver, CO
December 13, 2019

EXHIBIT 31.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER OF THE COMPANY PURSUANT TO RULE 13a-14(a) OF THE SECURITIES EXCHANGE ACT OF 1934

I, Gary M. Owens, certify that:

1. I have reviewed this Annual Report on Form 10-K/A of Mesa Laboratories, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent quarter (the registrant's fourth quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: December 13, 2019

/s/ GARY M. OWENS

Gary M. Owens
Chief Executive Officer

EXHIBIT 31.2

CERTIFICATION OF CHIEF FINANCIAL OFFICER OF THE COMPANY PURSUANT TO RULE 13a-14(a) OF THE SECURITIES EXCHANGE ACT OF 1934

I, John V. Sakys, certify that:

1. I have reviewed this Annual Report on Form 10-K/A of Mesa Laboratories, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant’s other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

    (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
    (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
    (c) Evaluated the effectiveness of the registrant’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
    (d) Disclosed in this report any change in the registrant’s internal control over financial reporting that occurred during the registrant’s most recent quarter (the registrant’s fourth quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant’s internal control over financial reporting; and

5. The registrant’s other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant’s auditors and the audit committee of the registrant’s board of directors (or persons performing the equivalent functions):

    (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant’s ability to record,
    process, summarize and report financial information; and
    (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant’s internal control over financial reporting.

Date: December 13, 2019

/s/ JOHN V. SAKYS

John V. Sakys
Chief Financial Officer

EXHIBIT 32.1

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350

In connection with the Annual Report of Mesa Laboratories, Inc. (the “Company”) on Form 10-K/A for the year ended March 31, 2019, as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Gary M. Owens, Chief Executive Officer of the Company, certify, pursuant to Rule 13a-14(b) and 18 U.S.C. § 1350, that:

(1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: December 13, 2019

/s/ GARY M. OWENS

Gary M. Owens
Chief Executive Officer

EXHIBIT 32.2

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350

In connection with the Annual Report of Mesa Laboratories, Inc. (the "Company") on Form 10-K/A for the year ended March 31, 2019, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, John V. Sakys, Chief Financial Officer of the Company, certify, pursuant to Rule 13a-14(b) and 18 U.S.C. § 1350, that:

(1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: December 13, 2019

/s/ JOHN V. SAKYS

John V. Sakys
Chief Financial Officer