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

FORM 10-Q

(Mark One)

☑ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the quarterly period ended September 30, 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 Number 001-36569

LANTHEUS HOLDINGS, INC.

(Exact name of registrant as specified in its charter)

Delaware	**35-2318913**
(State or other jurisdiction of incorporation or organization)	**(IRS Employer Identification No.)**
331 Treble Cove Road, North Billerica, MA	**01862**
(Address of principal executive offices)	**(Zip Code)**

(978) 671-8001

(Registrant's telephone number, including area code)

Not Applicable

(Former name, former address and former fiscal year, if changed since last report

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common stock, par value $0.01 per share	LNTH	The Nasdaq Global Market

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

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

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

Large accelerated filer	☐	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 by Rule 12b-2 of the Act) Yes ☐ No ☑

The registrant had 39,248,092 shares of common stock, $0.01 par value, outstanding as of October 25, 2019.

LANTHEUS HOLDINGS, INC.
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PART I. FINANCIAL INFORMATION

Item 1. Financial Statements (Unaudited)

Lantheus Holdings, Inc.
Condensed Consolidated Balance Sheets
(Unaudited)
(in thousands, except par value)

	September 30, 2019	December 31, 2018
Assets		
Current assets		
Cash and cash equivalents	$ 78,062	$ 113,401
Accounts receivable, net	40,632	43,753
Inventory	30,596	33,019
Other current assets	5,096	5,242
Total current assets	154,386	195,415
Property, plant and equipment, net	113,531	107,888
Intangibles, net	7,786	9,133
Goodwill	15,714	15,714
Deferred tax assets, net	77,745	81,449
Other long-term assets	33,247	30,232
Total assets	$ 402,409	$ 439,831
Liabilities and stockholders' equity		
Current liabilities		
Current portion of long-term debt and other borrowings	$ 10,166	$ 2,750
Accounts payable	16,492	17,955
Accrued expenses and other liabilities	32,928	32,050
Total current liabilities	59,586	52,755
Asset retirement obligations	12,560	11,572
Long-term debt, net and other borrowings	186,373	263,709
Other long-term liabilities	42,724	40,793
Total liabilities	301,243	368,829
Commitments and contingencies (See Note 14)		
Stockholders' equity		
Preferred stock ($0.01 par value, 25,000 shares authorized; no shares issued and outstanding)	—	—
Common stock ($0.01 par value, 250,000 shares authorized; 39,229 and 38,466 shares issued and outstanding, respectively)	392	385
Additional paid-in capital	248,694	239,865
Accumulated deficit	(146,923)	(168,140)
Accumulated other comprehensive loss	(997)	(1,108)
Total stockholders' equity	101,166	71,002
Total liabilities and stockholders' equity	$ 402,409	$ 439,831

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

Lantheus Holdings, Inc.
Condensed Consolidated Statements of Operations
(Unaudited)
(in thousands, except per share data)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	**2018**	**2019**	**2018**
Revenues	$ 85,776	$ 88,900	$ 257,991	$ 257,103
Cost of goods sold	44,187	44,015	127,745	126,063
Gross profit	41,589	44,885	130,246	131,040
Operating expenses				
Sales and marketing	10,151	10,478	31,496	33,248
General and administrative	18,061	13,609	43,943	37,727
Research and development	4,860	4,316	15,584	12,520
Total operating expenses	33,072	28,403	91,023	83,495
Operating income	8,517	16,482	39,223	47,545
Interest expense	2,356	4,446	11,491	12,794
Loss on extinguishment of debt	—	—	3,196	—
Other expense (income)	804	(799)	(1,695)	(2,055)
Income before income taxes	5,357	12,835	26,231	36,806
Income tax expense	501	3,566	5,014	9,581
Net income	$ 4,856	$ 9,269	$ 21,217	$ 27,225
Net income per common share:				
Basic	$ 0.12	$ 0.24	$ 0.55	$ 0.71
Diluted	$ 0.12	$ 0.24	$ 0.53	$ 0.69
Weighted-average common shares outstanding:				
Basic	39,123	38,342	38,901	38,155
Diluted	40,286	39,402	40,123	39,467

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

Lantheus Holdings, Inc.
Condensed Consolidated Statements of Comprehensive Income
(Unaudited)
(in thousands)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Net income	$ 4,856	$ 9,269	$ 21,217	$ 27,225
Other comprehensive (loss) income:				
Foreign currency translation	(33)	(2)	111	2
Total other comprehensive (loss) income	(33)	(2)	111	2
Comprehensive income	$ 4,823	$ 9,267	$ 21,328	$ 27,227

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

Lantheus Holdings, Inc.
Condensed Consolidated Statements of Changes in Stockholders' Equity
(Unaudited)
(in thousands)

	Nine Months Ended September 30, 2019					
	Common Stock		Additional Paid-In Capital	Accumulated Deficit	Accumulated Other Comprehensive Loss	Total Stockholders' Equity
	Shares	Amount				
Balance, January 1, 2019	38,466	$ 385	$ 239,865	$ (168,140)	$ (1,108)	$ 71,002
Net income	—	—	—	9,949	—	9,949
Other comprehensive income	—	—	—	—	56	56
Stock option exercises and employee stock plan purchases	37	—	606	—	—	606
Vesting of restricted stock awards and units	365	4	(4)	—	—	—
Shares withheld to cover taxes	(50)	(1)	(1,119)	—	—	(1,120)
Stock-based compensation	—	—	2,720	—	—	2,720
Balance, March 31, 2019	38,818	$ 388	$ 242,068	$ (158,191)	$ (1,052)	$ 83,213
Net income	—	—	—	6,412	—	6,412
Other comprehensive income	—	—	—	—	88	88
Stock option exercises and employee stock plan purchases	9	—	120	—	—	120
Vesting of restricted stock awards and units	253	3	(3)	—	—	—
Shares withheld to cover taxes	(37)	(1)	(943)	—	—	(944)
Stock-based compensation	—	—	3,358	—	—	3,358
Balance, June 30, 2019	39,043	$ 390	$ 244,600	$ (151,779)	$ (964)	$ 92,247
Net income	—	—	—	4,856	—	4,856
Other comprehensive loss	—	—	—	—	(33)	(33)
Stock option exercises and employee stock plan purchases	49	1	1,019	—	—	1,020
Vesting of restricted stock awards and units	153	2	(2)	—	—	—
Shares withheld to cover taxes	(16)	(1)	(346)	—	—	(347)
Stock-based compensation	—	—	3,423	—	—	3,423
Balance, September 30, 2019	$ 39,229	$ 392	$ 248,694	$ (146,923)	$ (997)	$ 101,166

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

Lantheus Holdings, Inc.
Condensed Consolidated Statements of Changes in Stockholders' Equity (Continued)
(Unaudited)
(in thousands)

	Nine Months Ended September 30, 2018					
	Common Stock		Additional Paid-In Capital	Accumulated Deficit	Accumulated Other Comprehensive Loss	Total Stockholders' Equity
	Shares	Amount				
Balance, January 1, 2018	37,765	$ 378	$ 232,960	$ (209,013)	$ (1,034)	$ 23,291
Net income	—	—	—	8,211	—	8,211
Forfeiture of dividend equivalent right	—	—	—	355	—	355
Other comprehensive income	—	—	—	—	—	—
Stock option exercises and employee stock plan purchases	94	1	719	—	—	720
Vesting of restricted stock awards and units	174	2	(2)	—	—	—
Shares withheld to cover taxes	(36)	(1)	(708)	—	—	(709)
Stock-based compensation	—	—	1,796	—	—	1,796
Balance, March 31, 2018	37,997	$ 380	$ 234,765	$ (200,447)	$ (1,034)	$ 33,664
Net income	—	—	—	9,745	—	9,745
Other comprehensive income	—	—	—	—	4	4
Stock option exercises and employee stock plan purchases	111	1	625	—	—	626
Vesting of restricted stock awards and units	286	3	(3)	—	—	—
Shares withheld to cover taxes	(96)	(1)	(1,721)	—	—	(1,722)
Stock-based compensation	—	—	2,216	—	—	2,216
Balance, June 30, 2018	38,298	$ 383	$ 235,882	$ (190,702)	$ (1,030)	$ 44,533
Net income	—	—	—	9,269	—	9,269
Other comprehensive loss	—	—	—	—	(2)	(2)
Stock option exercises and employee stock plan purchases	18	—	234	—	—	234
Vesting of restricted stock awards and units	207	2	(2)	—	—	—
Shares withheld to cover taxes	(60)	—	(933)	—	—	(933)
Stock-based compensation	—	—	2,407	—	—	2,407
Balance, September 30, 2018	38,463	$ 385	$ 237,588	$ (181,433)	$ (1,032)	$ 55,508

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

Lantheus Holdings, Inc.
Condensed Consolidated Statements of Cash Flows
(Unaudited)
(in thousands)

	Nine Months Ended September 30,	
	2019	**2018**
Operating activities		
Net income	$ 21,217	$ 27,225
Adjustments to reconcile net income to net cash flows from operating activities:		
Depreciation, amortization and accretion	9,840	10,544
Amortization of debt related costs	809	959
Loss on extinguishment of debt	3,196	—
Provision for bad debt	107	288
Provision for excess and obsolete inventory	1,699	2,470
Stock-based compensation	9,501	6,419
Deferred taxes	3,790	7,220
Long-term income tax receivable	(842)	(2,220)
Long-term income tax payable and other long-term liabilities	1,113	2,397
Other	229	1,001
Increases (decreases) in cash from operating assets and liabilities:		
Accounts receivable	3,078	(7,205)
Inventory	728	(9,832)
Other current assets	(196)	(49)
Accounts payable	1,454	2,200
Accrued expenses and other liabilities	2,240	2,470
Net cash provided by operating activities	57,963	43,887
Investing activities		
Capital expenditures	(17,320)	(12,766)
Proceeds from sale of assets	—	1,000
Net cash used in investing activities	(17,320)	(11,766)
Financing activities		
Proceeds from issuance of long-term debt	199,461	—
Payments on long-term debt and other borrowings	(272,821)	(2,146)
Deferred financing costs	(2,034)	—
Proceeds from stock option exercises	1,173	1,152
Proceeds from issuance of common stock	573	428
Payments for minimum statutory tax withholding related to net share settlement of equity awards	(2,410)	(3,168)
Net cash used in financing activities	(76,058)	(3,734)
Effect of foreign exchange rates on cash and cash equivalents	76	(93)
Net (decrease) increase in cash and cash equivalents	(35,339)	28,294
Cash and cash equivalents, beginning of period	113,401	76,290
Cash and cash equivalents, end of period	$ 78,062	$ 104,584

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

Lantheus Holdings, Inc.
Notes to Condensed Consolidated Financial Statements
(Unaudited)

Note Regarding Company References and Trademarks

Unless the context otherwise requires, references to the "Company" and "Lantheus" refer to Lantheus Holdings, Inc. and its direct and indirect wholly-owned subsidiaries, references to "Holdings" refer to Lantheus Holdings, Inc. and not to any of its subsidiaries, and references to "LMI" refer to Lantheus Medical Imaging, Inc., the direct subsidiary of Holdings. Solely for convenience, the Company refers to trademarks, service marks and trade names without the TM, SM and ® symbols. Those references are not intended to indicate, in any way, that the Company will not assert, to the fullest extent permitted under applicable law, its rights to its trademarks, service marks and trade names.

1. Basis of Presentation

The accompanying unaudited condensed consolidated financial statements include the accounts of Lantheus Holdings, Inc. and its direct and indirect wholly-owned subsidiaries and have been prepared in accordance with generally accepted accounting principles for interim financial information and with the instructions to Form 10-Q and Article 10 of Regulation S-X. Accordingly, these condensed consolidated financial statements do not include all of the information and notes required by generally accepted accounting principles in the United States of America ("U.S. GAAP") for complete financial statements. In the opinion of management, all adjustments (consisting of normal and recurring adjustments) considered necessary for a fair statement have been included. The results of operations for the three and nine months ended September 30, 2019 are not necessarily indicative of the results that may be expected for the year ended December 31, 2019 or any future period.

The condensed consolidated balance sheet at December 31, 2018 has been derived from the audited consolidated financial statements at that date but does not include all of the information and notes required by U.S. GAAP for complete financial statements. These condensed consolidated financial statements and accompanying notes should be read in conjunction with the consolidated financial statements and notes thereto included in Item 8 of the Company's most recent Annual Report on Form 10-K for the year ended December 31, 2018 filed with the Securities Exchange Commission ("SEC") on February 20, 2019.

2. Summary of Significant Accounting Policies

Recent Accounting Pronouncements

Standard	Description	Effective Date for Company	Effect on the Condensed Consolidated Financial Statements
Recently Issued Accounting Standards Not Yet Adopted			
ASU 2016-13, Financial Instruments-Credit Losses (Topic 326)	This ASU will require financial instruments measured at amortized cost and accounts receivable to be presented at the net amount expected to be collected. The new model requires an entity to estimate credit losses based on historical information, current information and reasonable and supportable forecasts that affect the collectability of the reported amount. ASU 2016-13 is effective for annual reporting periods beginning after December 15, 2019.	January 1, 2020	The Company does not expect that the adoption of this standard will have a material impact on the Company's condensed consolidated financial statements.
Accounting Standards Adopted During the Nine Months Ended September 30, 2019			
ASU 2016-02, Leases (Topic 842)	This ASU supersedes existing guidance on accounting for leases in "Leases (Topic 840)" and generally requires all leases to be recognized on the balance sheet. In July 2018, an amendment was made that allows companies the option of using the effective date of the new standard as the initial application date (at the beginning of the period in which it is adopted, rather than at the beginning of the earliest comparative period).	January 1, 2019	See Note 11, "Leases" for the required disclosures related to the impact of adopting this standard. The adoption of this standard resulted in the recording of an additional lease asset and lease liability of approximately $1.1 million as of January 1, 2019. The standard did not have a material impact on the Company's condensed consolidated statements of operations, equity or cash flows.

3. Revenue from Contracts with Customers

The following table summarizes revenue by revenue source and reportable segment as follows:

Major Products/Service Lines by Segment (in thousands)	Three Months Ended September 30, 2019	Three Months Ended September 30, 2018	Nine Months Ended September 30, 2019	Nine Months Ended September 30, 2018
U.S.				
Product revenue, net[1]	$ 74,650	$ 70,255	$ 225,274	$ 215,829
License and royalty revenues	—	—	—	—
Total U.S. revenues	74,650	70,255	225,274	215,829
International				
Product revenue, net[1]	10,587	18,069	31,123	39,567
License and royalty revenues	539	576	1,594	1,707
Total International revenues	$ 11,126	$ 18,645	$ 32,717	$ 41,274
Total revenues	$ 85,776	$ 88,900	$ 257,991	$ 257,103

(1) The Company's principal products include DEFINITY and TechneLite and are categorized within product revenue, net. The Company applies the same revenue recognition policies and judgments for all of its principal products.

The Company's performance obligations are typically part of contracts that have an original expected duration of one year or less. As such, under the optional exemption provided by ASC 606-10-50-14, the Company is not disclosing the aggregate amount of the transaction price allocated to performance obligations that are unsatisfied (or partially satisfied) as of the end of the reporting period.

4. Fair Value of Financial Instruments

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. In order to increase consistency and comparability of fair value measurements, financial instruments are categorized based on a hierarchy that prioritizes observable and unobservable inputs used to measure fair value into three broad levels, which are described below:

- *Level 1* — Inputs are unadjusted quoted prices in active markets for identical assets or liabilities that the Company has the ability to access at the measurement date.
- *Level 2* — Inputs include quoted prices for similar assets and liabilities in active markets, quoted prices for identical or similar assets or liabilities in markets that are not active, inputs other than quoted prices that are observable for the asset or liability (i.e., interest rates, yield curves, etc.) and inputs that are derived principally from or corroborated by observable market data by correlation or other means (market corroborated inputs).
- *Level 3* — Unobservable inputs that reflect a Company's estimates about the assumptions that market participants would use in pricing the asset or liability. The Company develops these inputs based on the best information available, including its own data.

The Company's financial assets measured at fair value on a recurring basis consist of money market funds. The Company invests excess cash from its operating cash accounts in overnight investments and reflects these amounts in cash and cash equivalents in the condensed consolidated balance sheets at fair value using quoted prices in active markets for identical assets.

The tables below present information about the Company's assets and liabilities measured at fair value on a recurring basis:

(in thousands)	September 30, 2019 Total Fair Value	Level 1	Level 2	Level 3
Money market	$ 24,087	$ 24,087	$ —	$ —
Total	$ 24,087	$ 24,087	$ —	$ —

(in thousands)	December 31, 2018 Total Fair Value	Level 1	Level 2	Level 3
Money market	$ 61,391	$ 61,391	$ —	$ —
Total	$ 61,391	$ 61,391	$ —	$ —

5. Income Taxes

The Company provides for income taxes at the end of each interim period based on the estimated effective tax rate for the full year, adjusted for any discrete events which are recorded in the period they occur. The Company's effective tax rate in fiscal 2019 differs from the U.S. federal statutory rate of 21% principally due to the impact of state taxes and the accrual of interest on uncertain tax positions, offset by tax benefits arising from stock compensation deductions, and by the reversal of an uncertain tax position in the third quarter which provided $1.5 million of net tax benefit. The reversal of the uncertain tax position also resulted in an equal reversal of indemnification receivable and, consequently, $1.5 million of expense was recorded to Other expense (income). Cumulative adjustments to the tax provision are recorded in the interim period in which a change in the estimated annual effective tax rate is determined. The Company's income tax expense is presented below:

(in thousands)	Three Months Ended September 30, 2019	Three Months Ended September 30, 2018	Nine Months Ended September 30, 2019	Nine Months Ended September 30, 2018
Income tax expense	$ 501	$ 3,566	$ 5,014	$ 9,581

The Company regularly assesses its ability to realize its deferred tax assets. Assessing the realizability of deferred tax assets requires significant management judgment. In determining whether its deferred tax assets are more-likely-than-not realizable, the Company evaluates all available positive and negative evidence, and weighs the objective evidence and expected impact. The Company continues to record a valuation allowance against certain foreign deferred tax assets.

In connection with the Company's acquisition of the medical imaging business from Bristol Myers Squibb ("BMS") in 2008, the Company entered into a tax indemnification agreement with BMS. A long-term receivable is recorded to account for the expected value to the Company of future indemnification payments, net of actual tax benefits received. The tax indemnification receivable is recognized within other long-term assets. Changes in the tax indemnification asset are recognized within other income in the condensed consolidated statement of operations. In accordance with the Company's accounting policy, the change in the tax liability, penalties and interest associated with these obligations (net of any offsetting federal or state benefit) is recognized within income tax expense. Accordingly, as these reserves change, adjustments are included in income tax expense while the offsetting adjustment is included in other income. Assuming that the receivable from BMS continues to be considered recoverable by the Company, there will be no effect on net income and no net cash outflows related to these liabilities.

6. Inventory

Inventory consisted of the following:

(in thousands)	September 30, 2019	December 31, 2018
Raw materials	$ 12,168	$ 11,100
Work in process	8,658	4,261
Finished goods	9,770	17,658
Total inventory	$ 30,596	$ 33,019

7. Property, Plant and Equipment, Net

Property, plant and equipment, net, consisted of the following:

(in thousands)	September 30, 2019	December 31, 2018
Land	$ 13,450	$ 13,450
Buildings	65,082	64,444
Machinery, equipment and fixtures	70,904	69,298
Computer software	20,303	19,266
Construction in progress	33,670	24,169
	203,409	190,627
Less: accumulated depreciation and amortization	(89,878)	(82,739)
Total property, plant and equipment, net	$ 113,531	$ 107,888

Depreciation and amortization expense related to property, plant and equipment, net, was $2.5 million for the three months ended September 30, 2019 and 2018, and $7.5 million and $7.6 million for the nine months ended September 30, 2019 and 2018, respectively.

8. Asset Retirement Obligations

The Company considers its legal obligation to remediate its facilities upon a decommissioning of its radioactive-related operations as an asset retirement obligation. The Company has production facilities which manufacture and process radioactive materials at its North Billerica, Massachusetts and San Juan, Puerto Rico sites.

The Company is required to provide the U.S. Nuclear Regulatory Commission and Massachusetts Department of Public Health financial assurance demonstrating the Company's ability to fund the decommissioning of its North Billerica, Massachusetts production facility upon closure, although the Company does not intend to close the facility. The Company has provided this financial assurance in the form of a $28.2 million surety bond.

The fair value of a liability for asset retirement obligations is recognized in the period in which the liability is incurred. As of September 30, 2019, the liability is measured at the present value of the obligation expected to be incurred, of approximately $26.9 million, and is adjusted in subsequent periods as accretion expense is recorded. The corresponding asset retirement costs are capitalized as part of the carrying values of the related long-lived assets and depreciated over the assets' useful lives.

The following table provides a summary of the changes in the Company's asset retirement obligations:

(in thousands)	Amount
Balance at January 1, 2019	$ 11,572
Revisions in estimated cash flows	20
Accretion expense	968
Balance at September 30, 2019	$ 12,560

9. Long-Term Debt, Net, and Other Borrowings

In June 2019, the Company refinanced its previous $275 million five-year term loan agreement (the "2017 Term Facility") with a new five-year $200 million term loan facility (the "2019 Term Facility" and the loans thereunder, the "2019 Term Loans"). In addition, the Company replaced its previous $75 million five-year revolving credit facility (the "2017 Revolving Facility") with a new $200 million five-year revolving credit facility (the "2019 Revolving Facility" and, together with the 2019 Term Facility, the "2019 Facility"). The terms of the 2019 Facility are set forth in the Credit Agreement, dated as of June 27, 2019 (the "2019 Credit Agreement"), by and among Holdings, the Company, the lenders from time to time party thereto and Wells Fargo Bank, N.A., as administrative agent and collateral agent. The Company has the right to request an increase to the 2019 Term Facility or request the establishment of one or more new incremental term loan facilities, in an aggregate principal amount of up to $100 million, plus additional amounts, in certain circumstances.

The net proceeds of the 2019 Term Facility, together with approximately $73 million of cash on hand, were used to refinance in full the aggregate remaining principal amount of the loans outstanding under the 2017 Term Facility and pay related interest, transaction fees and expenses. No amounts were outstanding under the 2017 Revolving Facility at that time. The Company accounted

for the refinancing of the 2017 Term Facility as a debt extinguishment and the 2017 Revolving Facility as a debt modification by evaluating the refinancing on a creditor by creditor basis. The Company recorded a loss on extinguishment of debt of $3.2 million related to the write-off of unamortized debt issuance costs and debt discounts. In addition, the Company incurred and capitalized $2.8 million of new debt issuance costs and debt discounts related to the refinancing.

2019 Term Facility

The Term Loans under the 2019 Term Facility bear interest, with pricing based from time to time at the Company's election at (i) LIBOR plus a spread ranging from 1.25% to 2.25% as determined by the Company's total net leverage ratio (as defined in the 2019 Credit Agreement) or (ii) the Base Rate (as defined in the 2019 Credit Agreement) plus a spread ranging from 0.25% to 1.25% as determined by the Company's total net leverage ratio. The use of the LIBOR is expected to be phased out by the end of 2021. The 2019 Credit Agreement allows for a replacement interest rate in the event the LIBOR is phased out. At September 30, 2019, the Company's interest rate under the 2019 Term Facility was 3.79%.

The Company is permitted to voluntarily prepay the 2019 Term Loans, in whole or in part, without premium or penalty. The 2019 Term Facility requires the Company to make mandatory prepayments of the outstanding 2019 Term Loans in certain circumstances. The Term loan matures in June 2024.

As of September 30, 2019, the Company's maturities of principal obligations under its long-term debt and other borrowings are as follows:

(in thousands)	Amount
Remainder of 2019	$ 2,500
2020	10,000
2021	10,000
2022	11,250
2023	15,000
2024	148,750
Total principal outstanding	197,500
Unamortized debt discount	(512)
Unamortized debt issuance costs	(816)
Finance lease liabilities	367
Total	196,539
Less: current portion	(10,166)
Total long-term debt, net and other borrowings	$ 186,373

2019 Revolving Facility

Under the terms of the 2019 Revolving Facility, the lenders thereunder agreed to extend credit to the Company from time to time until June 27, 2024 consisting of revolving loans (the "Revolving Loans" and, together with the Term Loans, the "Loans") in an aggregate principal amount not to exceed $200 million (the "Revolving Commitment") at any time outstanding. The 2019 Revolving Facility includes a $20 million sub-facility for the issuance of letters of credit (the "Letters of Credit"). The 2019 Revolving Facility includes a $10 million sub-facility for swingline loans (the "Swingline Loans"). The Letters of Credit, Swingline Loans and the borrowings under the 2019 Revolving Facility are expected to be used for working capital and other general corporate purposes.

The Revolving Loans under the 2019 Revolving Facility bear interest, with pricing based from time to time at the Company's election at (i) LIBOR plus a spread ranging from 1.25% to 2.25% as determined by the Company's total net leverage ratio or (ii) the Base Rate plus a spread ranging from 0.25% to 1.25% as determined by the Company's total net leverage ratio. The 2019 Revolving Facility also includes a commitment fee, which ranges from 0.15% to 0.30% as determined by the Company's total net leverage ratio.

The Company is permitted to voluntarily prepay the Revolving Loans, in whole or in part, or reduce or terminate the Revolving Commitment, in each case, without premium or penalty. On any business day on which the total amount of outstanding Revolving Loans and Letters of Credit exceeds the total Revolving Commitment, the Company must prepay the Revolving Loans in an amount equal to such excess. As of September 30, 2019, there were no outstanding borrowings under the 2019 Revolving Facility.

2019 Facility Covenants

The 2019 Facility contains a number of affirmative, negative, reporting and financial covenants, in each case subject to certain exceptions and materiality thresholds. The 2019 Facility requires the Company to be in quarterly compliance, measured on a trailing

four quarter basis, with two financial covenants. The minimum interest coverage ratio, commencing with the fiscal quarter ending September 30, 2019, must be at least 3.00 to 1.00. The maximum total net leverage ratio permitted by the financial covenant is displayed in the table below:

2019 Facility Financial Covenant

Period	Total Net Leverage Ratio
Q4 2019 to Q2 2020	4.00 to 1.00
Q3 2020 to Q2 2021	3.75 to 1.00
Thereafter	3.50 to 1.00

The Company may elect to increase the maximum total net leverage ratio by 0.50 to 1.00 (subject to a maximum of 4.25 to 1.00) up to two separate times during the term of the 2019 Facility in connection with any Material Acquisition (as defined in the Credit Agreement).

The 2019 Facility contains usual and customary restrictions on the ability of the Company and its subsidiaries to: (i) incur additional indebtedness (ii) create liens; (iii) consolidate, merge, sell or otherwise dispose of all or substantially all of its assets; (iv) sell certain assets; (v) pay dividends on, repurchase or make distributions in respect of capital stock or make other restricted payments; (vi) make certain investments; (vii) repay subordinated indebtedness prior to stated maturity; and (viii) enter into certain transactions with its affiliates.

Upon an event of default, the administrative agent under the Credit Agreement will have the right to declare the Loans and other obligations outstanding immediately due and payable and all commitments immediately terminated or reduced.

The 2019 Facility is guaranteed by Holdings and Lantheus MI Real Estate, LLC, and obligations under the 2019 Facility are generally secured by first priority liens over substantially all of the assets of each of LMI, Holdings and Lantheus MI Real Estate, LLC (subject to customary exclusions set forth in the transaction documents) owned as of June 27, 2019 or thereafter acquired.

10. Stock-Based Compensation

The following table presents stock-based compensation expense recognized in the Company's accompanying condensed consolidated statements of operations:

	Three Months Ended September 30,		Nine Months Ended September 30,	
(in thousands)	2019	2018	2019	2018
Cost of goods sold	$ 568	$ 322	$ 1,539	$ 812
Sales and marketing	518	193	1,477	892
General and administrative	1,948	1,540	5,403	3,741
Research and development	389	352	1,082	974
Total stock-based compensation expense	$ 3,423	$ 2,407	$ 9,501	$ 6,419

11. Leases

Adoption of ASC Topic 842, "Leases"

The Company adopted ASC 842 on January 1, 2019, using the prospective approach which provides a method for recording existing leases at adoption using the effective date of the standard as its initial application date. ASC 842 generally requires all leases to be recognized on the balance sheet. In addition, the Company elected the relief package of practical expedients permitted under the transition guidance within the new standard, which, among other things, allowed the Company not to reassess whether any expired or existing contracts are or contain leases, the lease classification for any expired or existing leases and initial direct costs for any existing leases. The reported results for 2019 reflect the application of ASC 842 guidance while the reported results for 2018 were prepared under the guidance of ASC 840, Leases. The adoption of ASC 842 resulted in the recording of an additional lease asset and lease liability of approximately $1.1 million as of January 1, 2019. ASC 842 did not materially impact the Company's condensed consolidated results of operations, equity or cash flows as of the adoption date or for the periods presented.

Leases

The Company determines if an arrangement is a lease at inception. The Company has operating and finance leases for vehicles, corporate offices and certain equipment.

Operating lease right-of-use ("ROU") assets and operating lease liabilities are recognized based on the present value of the future minimum lease payments over the lease term at commencement date. Lease agreements with lease and non-lease components are accounted for separately. As the Company's leases do not provide an implicit rate, the Company used the incremental borrowing rate based on the information available at commencement date in determining the present value of future payments. The operating lease ROU asset also includes any lease payments made and excludes lease incentives and initial direct costs incurred. The lease terms may include options to extend or terminate the lease when it is reasonably certain that the Company will exercise that option. Lease expense for minimum lease payments is recognized on a straight-line basis over the lease term.

Leases with an initial term of 12 months or less are not recorded on the balance sheet as the Company has elected to apply the short-term lease exemption. The Company recognizes lease expense for these leases on a straight-line basis over the lease term.

Operating and finance lease assets and liabilities are as follows:

(in thousands)	Classification	September 30, 2019
Assets		
Operating	Other long-term assets	$ 979
Finance	Property, plant and equipment, net	391
Total leased assets		$ 1,370
Liabilities		
Current		
Operating	Accrued expenses and other liabilities	$ 190
Finance	Current portion of long-term debt and other borrowings	166
Noncurrent		
Operating	Other long-term liabilities	862
Finance	Long-term debt, net and other borrowings	201
Total leased liabilities		$ 1,419

The components of lease expense were as follows:

(in thousands)	Three Months Ended September 30, 2019	Nine Months Ended September 30, 2019
Operating lease expense	$ 55	$ 167
Finance lease expense		
Amortization of ROU assets	47	106
Interest on lease liabilities	4	7
Short-term lease expense	23	68
Total lease expense	$ 129	$ 348

Other information related to leases were as follows:

	September 30, 2019
Weighted-average remaining lease term (Years):	
Operating leases	5.0
Finance leases	2.6
Weighted-average discount rate:	
Operating leases	5.1%
Finance leases	5.5%

(in thousands)	Nine Months Ended September 30, 2019
Cash paid for amounts included in the measurement of lease liabilities:	
Operating cash flows from operating leases	171
Operating cash flows from finance leases	7
Financing cash flows from finance leases	134
ROU assets obtained in exchange for lease obligations:	
Operating leases	—
Finance leases	361

Future minimum lease payments under non-cancellable leases as of September 30, 2019 were as follows:

(in thousands)	Operating Leases	Finance Leases
Remainder of 2019	$ 59	$ 36
2020	238	151
2021	238	130
2022	238	78
2023	238	—
Thereafter	178	—
Total future minimum lease payments	1,189	395
Less: interest	137	28
Total	$ 1,052	$ 367

12. Net Income Per Common Share

A summary of net income per common share is presented below:

	Three Months Ended September 30,		Nine Months Ended September 30,	
(in thousands, except per share amounts)	**2019**	**2018**	**2019**	**2018**
Net income	$ 4,856	$ 9,269	$ 21,217	$ 27,225
Basic weighted-average common shares outstanding	39,123	38,342	38,901	38,155
Effect of dilutive stock options	85	31	82	70
Effect of dilutive restricted stock	1,078	1,029	1,140	1,242
Diluted weighted-average common shares outstanding	40,286	39,402	40,123	39,467
Basic income per common share	$ 0.12	$ 0.24	$ 0.55	$ 0.71
Diluted income per common share	$ 0.12	$ 0.24	$ 0.53	$ 0.69
Antidilutive securities excluded from diluted net income per common share	48	355	44	346

13. Other Income

Other income consisted of the following:

	Three Months Ended September 30,		Nine Months Ended September 30,	
(in thousands)	**2019**	**2018**	**2019**	**2018**
Foreign currency (losses) gains	$ (96)	$ 89	$ (7)	$ (198)
Tax indemnification (expense) income	(762)	692	842	2,220
Interest income	54	18	613	33
Other	—	—	247	—
Total other (expense) income	$ (804)	$ 799	$ 1,695	$ 2,055

14. Legal Proceedings and Contingencies

From time to time, the Company is a party to various legal proceedings arising in the ordinary course of business. In addition, the Company has in the past been, and may in the future be, subject to investigations by governmental and regulatory authorities, which expose it to greater risks associated with litigation, regulatory or other proceedings, as a result of which the Company could be required to pay significant fines or penalties. The costs and outcome of litigation, regulatory or other proceedings cannot be predicted with certainty. Some lawsuits, claims, actions or proceedings may be disposed of unfavorably to the Company and could have a material adverse effect on the Company's results of operations or financial condition. In addition, intellectual property disputes often have a risk of injunctive relief which, if imposed against the Company, could materially and adversely affect its financial condition or results of operations.

The Company recently was awarded damages in its arbitration with Pharmalucence in connection with a Manufacturing and Supply Agreement dated November 12, 2013, under which Pharmalucence agreed to manufacture and supply DEFINITY for the Company. The commercial arrangement contemplated by that agreement was repeatedly delayed and ultimately never successfully realized. After extended settlement discussions between Sun Pharma, the ultimate parent of Pharmalucence, and the Company, which did not lead to a mutually acceptable outcome, on November 10, 2017, the Company filed an arbitration demand (and later an amended arbitration demand) with the American Arbitration Association against Pharmalucence, alleging breach of contract, breach of the covenant of good faith and fair dealing, tortious misrepresentation and violation of the Massachusetts Consumer Protection Law, also known as Chapter 93A. In October 2019, the Company was awarded a total of approximately $3.5 million, consisting of damages, pre-judgment interest, and certain arbitration fees, compensation and expenses. Pharmalucence has filed a motion to reduce the award to $2.3 million (to correct for a purported "computational error"). The Company will record the financial statement impact of the arbitration award when the proceeds are received.

As of September 30, 2019, except as disclosed above the Company had no material ongoing litigation in which the Company was a party. In addition, the Company had no material ongoing regulatory or other proceedings and no knowledge of any investigations by government or regulatory authorities in which the Company is a target, in either case, that the Company believes could have a material and adverse effect on its current business.

15. Segment Information

The Company reports two operating segments, U.S. and International, based on geographic customer base. The results of these operating segments are regularly reviewed by the Company's chief operating decision maker, the President and Chief Executive Officer. The Company's segments derive revenues through the manufacture, marketing, selling and distribution of medical imaging products, focused primarily on cardiovascular diagnostic imaging. All goodwill has been allocated to the U.S. operating segment. The Company does not identify or allocate assets to its segments.

Selected information regarding the Company's segments is provided as follows:

	Three Months Ended September 30,		Nine Months Ended September 30,	
(in thousands)	**2019**	**2018**	**2019**	**2018**
Revenues from external customers				
U.S.	$ 74,650	$ 70,255	$ 225,274	$ 215,829
International	11,126	18,645	32,717	41,274
Total revenues from external customers	$ 85,776	$ 88,900	$ 257,991	$ 257,103
Operating income				
U.S.	$ 6,389	$ 12,897	$ 33,662	$ 41,345
International	2,128	3,585	5,561	6,200
Total operating income	8,517	16,482	39,223	47,545
Interest expense	2,356	4,446	11,491	12,794
Loss on extinguishment of debt	—	—	3,196	—
Other expense (income)	804	(799)	(1,695)	(2,055)
Income before income taxes	$ 5,357	$ 12,835	$ 26,231	$ 36,806

16. Subsequent Event

On October 1, 2019, the Company entered into a definitive Merger Agreement (the "Merger Agreement") to acquire Progenics Pharmaceuticals, Inc. (NASDAQ: PGNX) ("Progenics") in an all-stock transaction (the "Progenics Transaction"). Progenics is an oncology company developing innovative medicines and artificial intelligence to find, fight and follow cancer. Under the terms of the Merger Agreement, the Company will acquire all of the issued and outstanding shares of Progenics common stock at a fixed exchange ratio. Progenics shareholders will receive 0.2502 shares of the Company's common stock for each share of Progenics common stock, representing an approximately 35% aggregate ownership stake in the combined company. The exchange ratio implies a 21.5% premium to Progenics' 30-day volume weighted-average closing stock price as of October 1, 2019. The transaction was unanimously approved by the Boards of Directors of both companies and is subject to the terms and conditions set forth in the Merger Agreement, including, among other things, the affirmative vote of a majority of the outstanding shares of common stock of Progenics and a majority of votes cast by the holders of the common stock of the Company, and the expiration or early termination of the applicable waiting period under the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended (the "HSR Act"), which has been obtained by grant of early termination of the HSR Act waiting period on October 25, 2019. The transaction is expected to close in the first quarter of 2020. Upon completion of the acquisition, which is intended to be tax-free to Progenics' stockholders for U.S. federal income tax purposes, the combined company will continue to be headquartered in North Billerica, Massachusetts and will trade on the NASDAQ under the ticker symbol LNTH. See the Company's Current Report on the Form 8-K dated October 1, 2019 for further information regarding the Merger Agreement and the proposed Progenics acquisition.

See Note 14, "Legal Proceedings and Contingencies" for further discussion on the Pharmalucence arbitration.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

Cautionary Note Regarding Forward-Looking Statements

Some of the statements contained in this Quarterly Report on Form 10-Q are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act"), and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). These forward-looking statements, including, in particular, statements about our plans, strategies, prospects and industry estimates are subject to risks and uncertainties. These statements identify prospective information and include words such as "anticipates," "intends," "plans," "seeks," "believes," "estimates," "expects," "should," "could," "predicts," "hopes" and similar expressions. Examples of forward-looking statements include statements we make relating to our outlook and expectations including, without limitation, in connection with: (i) continued market expansion and penetration for our commercial products, particularly DEFINITY, in the face of segment competition and potential generic competition as a result of patent and regulatory exclusivity expirations; (ii) the global Molybdenum-99 ("Moly") supply; (iii) our products manufactured at Jubilant HollisterStier ("JHS"); (iv) our efforts in new product development; and (v) our proposed acquisition (the "Progenics Transaction") of Progenics Pharmaceuticals, Inc ("Progenics"). Forward-looking statements are based on our current expectations and assumptions regarding our business, the economy and other future conditions. Because forward-looking statements relate to the future, such statements are subject to inherent uncertainties, risks and changes in circumstances that are difficult to predict. Our actual results may differ materially from those contemplated by the forward-looking statements. These statements are neither statements of historical fact nor guarantees or assurances of future performance. The matters referred to in the forward-looking statements contained in this Quarterly Report on Form 10-Q may not in fact occur. We caution you, therefore, against relying on any of these forward-looking statements. Important factors that could cause actual results to differ materially from those in the forward-looking statements include regional, national or global political, economic, business, competitive, market and regulatory conditions and the following:

- Our ability to continue to grow the appropriate use of DEFINITY in suboptimal echocardiograms in the face of segment competition from other echocardiography contrast agents, including Optison from GE Healthcare Limited ("GE Healthcare") and Lumason from Bracco Diagnostics Inc. ("Bracco"), and potential generic competition as a result of patent and regulatory exclusivity expirations;
- The instability of the global Moly supply, including (i) periodic outages at the NTP Radioisotopes ("NTP") processing facility in South Africa in 2017, 2018 and 2019 and (ii) an on-going outage at the Australian Nuclear Science and Technology Organisation's ("ANSTO") new Moly processing facility in Australia, in each case resulting in our inability to fill some or all of the demand for our TechneLite generators on certain manufacturing days during the outage periods;
- Our dependence upon third parties for the manufacture and supply of a substantial portion of our products, raw materials and components, including DEFINITY at JHS;
- The extensive costs, time and uncertainty associated with new product development, including further product development relying on external development partners or potentially developed internally;
- Our ability to identify and acquire or in-license additional products, businesses or technologies to drive our future growth;
- Our ability to protect our intellectual property and the risk of claims that we have infringed on the intellectual property of others;

- Risks associated with our on-going internal clinical development of DEFINITY for a left ventricular ejection fraction (“LVEF”) indication;
- Risks associated with the technology transfer programs to secure production of our products at additional contract manufacturer sites, including a modified formulation of DEFINITY at Samsung BioLogics (“SBL”) in South Korea;
- Risks associated with our investment in, and construction of, additional specialized manufacturing capabilities at our North Billerica, Massachusetts facility, including our ability to bring the new capabilities online by 2021;
- Our dependence on key customers for our medical imaging products, and our ability to maintain and profitably renew our contracts with those key customers, including Cardinal Health (“Cardinal”), United Pharmacy Partners (“UPPI”), GE Healthcare and Jubilant Radiopharma formerly known as Triad Isotopes, Inc. (“Jubilant Radiopharma”);
- Risks associated with revenues and unit volumes for Xenon in pulmonary studies as a result of increased competition from Curium;
- Risks associated with our lead agent in development, flurpiridaz F 18, which in 2017 we out-licensed to GE Healthcare, including:
    - The ability to successfully complete the Phase 3 development program;
    - The ability to obtain Food and Drug Administration (“FDA”) approval; and
    - The ability to gain post-approval market acceptance and adequate reimbursement;
- Risks associated with our development agent, LMI 1195, for patient populations that would benefit from molecular imaging of the norepinephrine pathway, including, among other things, designing and timely completing two Phase 3 clinical trials for the diagnosis and management of neuroendocrine tumors in pediatric and adult populations, respectively;
- Risks associated with the manufacturing and distribution of our products and the regulatory requirements related thereto;
- The dependence of certain of our customers upon third-party healthcare payors and the uncertainty of third-party coverage and reimbursement rates;
- Uncertainties regarding the impact of U.S. and state healthcare reform measures and proposals on our business, including measures and proposals related to reimbursement for our current and potential future products, controls over drug pricing, drug pricing transparency and generic drug competition;
- Our being subject to extensive government regulation and oversight, our potential inability to comply with those regulations and the costs of compliance;
- Potential liability associated with our marketing and sales practices;
- The occurrence of any serious or unanticipated side effects with our products;
- Our exposure to potential product liability claims and environmental, health and safety liability;
- Our ability to introduce new products and adapt to an evolving technology and medical practice landscape;
- Risks associated with prevailing economic or political conditions and events and financial, business and other factors beyond our control;
- Risks associated with our international operations;
- Our ability to adequately qualify, operate, maintain and protect our facilities, equipment and technology infrastructure;
- Our ability to hire or retain skilled employees and key personnel;
- Our ability to utilize, or limitations in our ability to utilize, net operating loss carryforwards to reduce our future tax liability;
- Risks related to our outstanding indebtedness and our ability to satisfy those obligations;
- Costs and other risks associated with the Sarbanes-Oxley Act and the Dodd-Frank Act, including in connection with becoming a large accelerated filer as of December 31, 2019;
- Risks related to the ownership of our common stock;
- Risks related to the Progenics Transaction, including:
    - We or Progenics may be unable to obtain stockholder approval as required;
    - Conditions to the closing of the Progenics Transaction may not be satisfied;
    - The Progenics Transaction may involve unexpected costs, liabilities or delays;

- The effect of the announcement of the Progenics Transaction on the ability of our or Progenics' business to retain and hire key personnel and maintain relationships with customers, suppliers and others with whom we or Progenics do business, or on our or Progenics' operating results and business generally;
- Our or Progenics' respective businesses may suffer as a result of uncertainty surrounding the Progenics Transaction and disruption of management's attention due to the Progenics Transaction;
- The outcome of any legal proceedings related to the Progenics Transaction;
- The occurrence of any event, change or other circumstances that could give rise to the termination of our agreement with Progenics;
- The risk that we or Progenics may be unable to obtain governmental and regulatory approvals required for the Progenics Transaction, or that required governmental and regulatory approvals may delay the Progenics Transaction or result in the imposition of conditions that could reduce the anticipated benefits from the proposed transaction or cause the parties to abandon the transaction;
- Risks that the anticipated benefits of the Progenics Transaction or other commercial opportunities may otherwise not be fully realized or may take longer to realize than expected;
- We or Progenics may be adversely affected by other economic, business, and/or competitive factors;
- The impact of legislative, regulatory, competitive and technological changes;
- Expectations for future clinical trials, the timing and potential outcomes of clinical studies and interactions with regulatory authorities;
- Other risks to the consummation of the Progenics Transaction, including the risk that the Progenics Transaction will not be consummated within the expected time period or at all; and

- Other factors that are described in Part I, Item 1A. "Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2018, in Part II, Item 1A. "Risk Factors" in our Quarterly Reports on Form 10-Q for the periods ended March 31, 2019 and June 30, 2019, and in Part II, Item 1A. "Risk Factors" in this Quarterly Report on Form 10-Q.

Factors that could cause or contribute to such differences include, but are not limited to, those that are discussed in other documents we file with the SEC. Any forward-looking statement made by us in this Quarterly Report on Form 10-Q speaks only as of the date on which it is made. Factors or events that could cause our actual results to differ may emerge from time to time, and it is not possible for us to predict all of them. We undertake no obligation to publicly update any forward-looking statement, whether as a result of new information, future developments or otherwise, except as may be required by law.

Available Information

Our global Internet site is www.lantheus.com. We routinely make available important information, including copies of our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act, as soon as reasonably practicable after those reports are electronically filed with, or furnished to, the SEC, free of charge on our website at www.investor.lantheus.com. We recognize our website as a key channel of distribution to reach public investors and as a means of disclosing material non-public information to comply with our disclosure obligations under SEC Regulation FD. Information contained on our website shall not be deemed incorporated into, or to be part of this Quarterly Report on Form 10-Q, and any website references are not intended to be made through active hyperlinks.

Our reports filed with, or furnished to, the SEC are also available on the SEC's website at www.sec.gov, and for Annual Reports on Form 10-K and Quarterly Reports on Form 10-Q, in an XBRL (Extensible Business Reporting Language) format. XBRL is an electronic coding language used to create interactive financial statement data over the Internet.

The following discussion and analysis of our financial condition and results of operations should be read together with the condensed consolidated financial statements and the related notes included in Item 1 of this Quarterly Report on Form 10-Q as well as the other factors described in Part I, Item 1A. "Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2018, Part II, Item 1A. "Risk Factors" in our Quarterly Reports on Form 10-Q for the periods ended March 31, 2019 and June 30, 2019, and Part II, Item IA. "Risk Factors" in this Quarterly Report on Form 10-Q.

Overview

Our Business

We are a global leader in the development, manufacture and commercialization of innovative diagnostic medical imaging agents and products that assist clinicians in the diagnosis and treatment of cardiovascular and other diseases. Clinicians use our imaging agents and products across a range of imaging modalities, including echocardiography and nuclear imaging. We believe that the resulting improved diagnostic information enables healthcare providers to better detect and characterize, or rule out, disease, potentially achieving improved patient outcomes, reducing patient risk and limiting overall costs for payers and the entire healthcare system.

Our commercial products are used by cardiologists, nuclear physicians, radiologists, internal medicine physicians, technologists and sonographers working in a variety of clinical settings. We sell our products to radiopharmacies, integrated delivery networks, hospitals, clinics and group practices.

We sell our products globally and operate our business in two reportable segments, which are further described below:

- *U.S. Segment* produces and markets our medical imaging agents and products throughout the U.S. In the U.S., we primarily sell our products to radiopharmacies, integrated delivery networks, hospitals, clinics and group practices.
- *International Segment* operations consist of production and distribution activities in Puerto Rico and some direct distribution activities in Canada. Additionally, within our International Segment, we have established and maintain third-party distribution relationships under which our products are marketed and sold in Europe, Canada, Australia, Asia-Pacific and Latin America.

Our Product Portfolio

Our product portfolio includes an ultrasound contrast agent, nuclear imaging products and a nuclear therapeutic product. Our principal products include the following:

- *DEFINITY* is a microbubble contrast agent used in ultrasound exams of the heart, also known as echocardiography exams. DEFINITY contains perflutren-containing lipid microspheres and is indicated in the U.S. for use in patients with suboptimal echocardiograms to assist in imaging the left ventricular chamber and left endocardial border of the heart in ultrasound procedures.
- *TechneLite* is a Technetium generator that provides the essential nuclear material used by radiopharmacies to radiolabel Cardiolite, Neurolite and other Technetium-based radiopharmaceuticals used in nuclear medicine procedures. TechneLite uses Moly as its active ingredient.

Sales of our microbubble contrast agent, DEFINITY, are made in the U.S. and Canada through a DEFINITY direct sales team. In the U.S., our nuclear imaging products, including TechneLite, Xenon, Neurolite and Cardiolite, are primarily distributed through commercial radiopharmacies, the majority of which are controlled by or associated with Cardinal, UPPI, GE Healthcare and Jubilant Radiopharma. A small portion of our nuclear imaging product sales in the U.S. are made through our direct sales force to hospitals and clinics that maintain their own in-house radiopharmaceutical preparation capabilities. We own one radiopharmacy in Puerto Rico where we sell our own products as well as products of third parties to end-users.

We also maintain our own direct sales force in Canada for certain of our products. In Europe, Australia, Asia-Pacific and Latin America, we generally rely on third-party distributors to market, sell and distribute our nuclear imaging and contrast agent products, either on a country-by-country basis or on a multi-country regional basis.

The following table sets forth our revenues:

	Three Months Ended September 30,				Nine Months Ended September 30,			
(in thousands)	**2019**	**% of Revenues**	**2018**	**% of Revenues**	**2019**	**% of Revenues**	**2018**	**% of Revenues**
DEFINITY	$ 52,395	61.1 %	$ 43,755	49.2 %	$ 158,135	61.3 %	$ 134,508	52.3 %
TechneLite	21,747	25.4 %	30,618	34.4 %	65,998	25.6 %	75,491	29.4 %
Other nuclear	15,541	18.1 %	17,555	19.8 %	45,907	17.8 %	56,422	22.0 %
Rebates and allowances	(3,907)	(4.6)%	(3,028)	(3.4)%	(12,049)	(4.7)%	(9,318)	(3.6)%
Total revenues	$ 85,776	100.0 %	$ 88,900	100.0 %	$ 257,991	100.0 %	$ 257,103	100.0 %

Progenics Transaction

On October 1, 2019, we entered into a Merger Agreement to acquire Progenics Pharmaceuticals, Inc. (NASDAQ: PGNX) in an all-stock transaction. Progenics is an oncology company developing innovative medicines and artificial intelligence to find, fight and follow cancer. Under the terms of the Merger Agreement, we will acquire all of the issued and outstanding shares of Progenics common stock at a fixed exchange ratio. Progenics shareholders will receive 0.2502 shares of our common stock for each share of Progenics common stock, representing an approximately 35% aggregate ownership stake in the combined company. The exchange ratio implies a 21.5% premium to Progenics' 30-day volume weighted-average closing stock price as of October 1, 2019. The transaction was unanimously approved by the Boards of Directors of both companies and is subject to the terms and conditions set forth in the Merger Agreement, including, among other things, the affirmative vote of a majority of the outstanding shares of common stock of Progenics and a majority of votes cast by the holders of the common stock of the Company, and the expiration or early termination of the applicable waiting period under the HSR Act, which, as noted above, has been obtained by grant of early termination of the HSR Act waiting period on October 25, 2019. The transaction is expected to close in the first quarter of 2020. Upon completion of the acquisition, which is intended to be tax-free to Progenics' stockholders for U.S. federal income tax purposes, the combined company will continue to be headquartered in North Billerica, Massachusetts and will trade on the NASDAQ under the ticker symbol LNTH. See the Company's Current Report on Form 8-K dated October 1, 2019 for further information regarding the Merger Agreement and the proposed Progenics acquisition.

See Part I, Item 1A. "Risk Factors" for information regarding certain risks associated with our proposed acquisition of Progenics.

Key Factors Affecting Our Results

Our business and financial performance have been, and continue to be, affected by the following:

Anticipated Continued Growth of DEFINITY and Expansion of Our Ultrasound Microbubble Franchise

We believe the market opportunity for our ultrasound microbubble contrast agent, DEFINITY, continues to be significant. DEFINITY is our fastest growing and highest margin commercial product. We anticipate DEFINITY sales will continue to grow and that DEFINITY will constitute a greater share of our overall product mix in 2019 as compared to prior years. As we continue to educate the physician and healthcare provider community about the benefits and risks of DEFINITY, we believe we will be able to continue to grow the appropriate use of DEFINITY in suboptimal echocardiograms. In a U.S. market with three echocardiography contrast agents approved by the FDA, we estimate that DEFINITY had over 80% of the market as of December 31, 2018.

As we continue to pursue expanding our microbubble franchise, our activities include:

- *Patents* - We continue to actively pursue additional patents in connection with DEFINITY, both in the U.S. and internationally. In the U.S., we have an Orange Book-listed method of use patent expiring in March 2037 and additional manufacturing patents that are not Orange Book-listed expiring in 2021, 2023 and 2037. Outside of the U.S., while our DEFINITY patent protection and regulatory exclusivity have generally expired, we are currently prosecuting additional patents to try to obtain similar method of use patent protection as granted in the U.S.

  Hatch-Waxman Act - Even though our longest duration Orange Book-listed DEFINITY patent extends until March 2037, because our Orange Book-listed composition of matter patent expired in June 2019, we may face generic DEFINITY challengers in the near to intermediate term. Under the Hatch-Waxman Act, the FDA can approve Abbreviated New Drug Applications ("ANDAs") for generic versions of drugs if the ANDA applicant demonstrates, among other things, that (i) its generic candidate is the same as the innovator product by establishing bioequivalence and providing relevant chemistry, manufacturing and product data, and (ii) the marketing of that generic candidate does not infringe an Orange Book-listed patent. With respect to any Orange Book-listed patent covering the innovator product, the ANDA applicant must give a notice to the innovator (a "Notice") that the ANDA applicant certifies that its generic candidate will not infringe the innovator's Orange Book-listed patent or that the Orange Book-listed patent is invalid. The innovator can then challenge the ANDA applicant in court within 45 days of receiving that Notice, and FDA approval to commercialize the generic candidate will be stayed (that is, delayed) for up to 30 months (measured from the date on which a Notice is received) while the patent dispute between the innovator and the ANDA applicant is resolved in court. The 30 month stay could potentially expire sooner if the courts determine that no infringement had occurred or that the challenged Orange Book-listed patent is invalid or if the parties otherwise settle their dispute.

  As of the date of filing of this Quarterly Report on Form 10-Q, we have not received any Notice from an ANDA applicant. If we were to (i) receive any such Notice in the future, (ii) bring a patent infringement suit against the ANDA applicant within 45 days of receiving that Notice, and (iii) successfully obtain the full 30 month stay, then the ANDA applicant would be precluded from commercializing a generic version of DEFINITY prior to the expiration of that 30 month stay period and, potentially, thereafter, depending on how the patent dispute is resolved. Solely by way of example and not based on any knowledge we currently have, if we received a Notice from an ANDA applicant in November 2019 and the full 30 month stay was obtained, then the ANDA applicant would be precluded from commercialization until at least May 2022. If we received a

Notice some number of months in the future and the full 30 month stay was obtained, the commercialization date would roll forward in the future by the same calculation.

- *LVEF Indication* - We are currently conducting two well-controlled Phase 3 studies designed to demonstrate improved accuracy of LVEF measurements with DEFINITY-enhanced echocardiography versus unenhanced echocardiography. The truth standard in these studies is cardiac magnetic resonance imaging. The studies are being conducted at 20 U.S. sites and will eventually enroll a total of approximately 300 subjects. We believe DEFINITY could improve the accuracy of LVEF measurements, giving clinicians greater confidence in patient management decisions. An LVEF indication could substantially increase the addressable market for contrast-enhanced echocardiography. We believe that DEFINITY, as the market leader, would benefit from the expanded addressable market. Based on current enrollment in our on-going LVEF Phase 3 studies, we currently believe that we will be able to complete the Phase 3 studies by year end 2019, and, if subsequently approved by the FDA, the LVEF indication could become commercially available to us as early as 2020, although that timing cannot be assured.
- *Modified Formulation* - We are developing at SBL a modified formulation of DEFINITY. We believe this modified formulation will provide an enhanced product profile enabling storage as well as shipment at room temperature (DEFINITY's current formulation requires refrigerated storage), will give clinicians additional choice, and will allow for greater utility of this formulation in broader clinical settings. We were recently granted a composition of matter patent on the modified formulation which runs through December 2035. If the modified formulation is approved by the FDA, then this patent would be eligible to be listed in the Orange Book. We currently believe that, if approved by the FDA, the modified formulation could become commercially available in 2020, although that timing cannot be assured. Given its physical characteristics, the modified formulation may also be better suited for inclusion in kits requiring microbubbles for other indications and applications (including in kits developed by third parties of the type described in the next paragraph).
- *New Clinical Applications* - As we continue to look for other opportunities to expand our microbubble franchise, we are evaluating new indications and clinical applications beyond echocardiography and contrast imaging generally. For example, we recently announced a strategic development and commercial collaboration with Cerevast Medical, Inc. ("Cerevast") in which our microbubble will be used in connection with Cerevast's ocular ultrasound device to target improving blood flow in occluded retinal veins in the eye. Retinal vein occlusion is one of the most common causes of vision loss worldwide.
- *In-House Manufacturing* - We are currently building specialized in-house manufacturing capabilities at our North Billerica, Massachusetts facility for DEFINITY and, potentially, other sterile vial products. We believe the investment in these efforts will allow us to better control DEFINITY manufacturing and inventory, reduce our costs in a potentially more price competitive environment, and provide us with supply chain redundancy. We currently expect to be in a position to use this in-house manufacturing capability by early 2021, although that timing cannot be assured.

See Part I, Item 1A. "Risk Factors—The growth of our business is substantially dependent on our ability to continue to grow the appropriate use of DEFINITY in suboptimal echocardiograms in the face of increased segment competition from other existing echocardiography agents and potential generic competitors as a result of future patent and regulatory exclusivity expirations," "—If we are unable to protect our intellectual property, our competitors could develop and market products with features similar to our products, and demand for our products may decline," "—Our dependence upon third parties for the manufacture and supply of a substantial portion of our products could prevent us from delivering our products to our customers in the required quantities, within the required timeframes, or at all, which could result in order cancellations and decreased revenues," and "—Item 1. Business—Our Product Portfolio —DEFINITY and the Expansion of Our Ultrasound Microbubble Franchise," of our Annual Report on Form 10-K for the year ended December 31, 2018.

Global Moly Supply

We currently have Moly supply agreements with Institute for Radioelements ("IRE"), running through December 31, 2019, and renewable by us on a year-to-year basis thereafter, and with ANSTO and NTP, running through December 31, 2020. We also have a Xenon supply agreement with IRE which runs through June 30, 2022, and which is subject to further extension.

Although we have a globally diverse Moly supply with IRE in Belgium, ANSTO in Australia and NTP in South Africa, we still face challenges in our Moly supply chain. The NTP processing facility has had periodic outages in 2017, 2018 and 2019. When NTP was not producing, we relied on Moly supply from both IRE and ANSTO to limit the impact of the NTP outages. In the second quarter of 2019, ANSTO experienced facility issues in its existing Moly processing facility which resulted in a decrease in Moly available to us. In addition, as ANSTO transitioned from its existing Moly processing facility to its new Moly processing facility in the second quarter of 2019, ANSTO experienced start-up and transition challenges, which also resulted in a decrease in Moly available to us. Further, starting in late June 2019 and through the date of this filing, ANSTO's new Moly processing facility has experienced unscheduled production outages, and we are now relying on IRE and NTP to limit the impact of those ANSTO outages. Because of these various supply chain constraints, depending on reactor and processor schedules and operations, we have not been able to fill some or all of the demand for our TechneLite generators on certain manufacturing days.

ANSTO's new Moly processing facility, could eventually increase ANSTO's Moly production capacity from approximately 2,000 curies per week to 3,500 curies per week with additional committed financial and operational resources. We recently received approval from both the FDA and Health Canada for our use of Moly supplied from ANSTO's new Moly processing facility in manufacturing our TechneLite generators. At full ramp-up capacity, ANSTO's new facility could provide incremental supply to our globally diversified Moly supply chain and therefore mitigate some risk among our Moly suppliers, although we can give no assurances to that effect. In addition, we also have a strategic arrangement with SHINE Medical Technologies, Inc. ("SHINE"), a Wisconsin-based company, for the future supply of Moly. Under the terms of that agreement, SHINE will provide us Moly once SHINE's facility becomes operational and receives all necessary approvals, which SHINE now estimates will occur in 2022.

See Part II, Item 1A. "Risk Factors—The global supply of Moly is fragile and not stable. Our dependence on a limited number of third party suppliers for Moly could prevent us from delivering some of our products to our customers in the required quantities, within the required timeframe, or at all, which could result in order cancellations and decreased revenues" of this Quarterly Report on Form 10-Q and Part 1, Item 1A. "Risk Factors—The instability of the global supply of Moly, including supply shortages, has resulted in increases in the cost of Moly, which has negatively affected our margins, and more restrictive agreements with suppliers, which could further increase our costs" of our Annual Report on Form 10-K for the year ended December 31, 2018.

Inventory Supply

We obtain a substantial portion of our imaging agents from third-party suppliers. JHS is currently our sole source manufacturer of DEFINITY, Neurolite, Cardiolite and evacuation vials, the latter being an ancillary component for our TechneLite generators. We are currently seeking approval from certain foreign regulatory authorities for JHS to manufacture certain of our products. Until we receive these approvals, we will face continued limitations on where we can sell those products outside of the U.S.

In addition to JHS, we are also currently working to secure additional alternative suppliers for our key products as part of our ongoing supply chain diversification strategy. We have ongoing development and technology transfer activities for a modified formulation of DEFINITY with SBL, which is located in South Korea. We currently believe that if approved by the FDA, the modified formulation could be commercially available in 2020, although that timing cannot be assured. We are also building in-house specialized manufacturing capabilities at our North Billerica, Massachusetts facility, as part of a larger strategy to create a competitive advantage in specialized manufacturing, which will also allow us to optimize our costs and reduce our supply chain risk. We can give no assurance as to when or if we will be successful in these efforts or that we will be able to successfully manufacture any additional commercial products at our North Billerica, Massachusetts facility. See Part I, Item 1A. "Risk Factors—Our dependence upon third parties for the manufacture and supply of a substantial portion of our products could prevent us from delivering our products to our customers in the required quantities, within the required timeframes, or at all, which could result in order cancellations and decreased revenues" of our Annual Report on Form 10-K for the year ended December 31, 2018.

Radiopharmaceuticals are decaying radioisotopes with half-lives ranging from a few hours to several days. These products cannot be kept in inventory because of their limited shelf lives and are subject to just-in-time manufacturing, processing and distribution, which takes place at our North Billerica, Massachusetts facility.

Research and Development Expenses

To remain a leader in the marketplace, we have historically made substantial investments in new product development. As a result, the positive contributions of those internally funded research and development programs have been a key factor in our historical results and success. On April 25, 2017, we announced entering into a definitive, exclusive Collaboration and License Agreement with GE Healthcare for the continued Phase 3 development and worldwide commercialization of flurpiridaz F 18. As part of our microbubble franchise strategy, for our proposed LVEF indication for DEFINITY, we are currently conducting two well-controlled Phase 3 studies designed to demonstrate improved accuracy of LVEF measurements with DEFINITY-enhanced echocardiography versus unenhanced echocardiography. For LMI 1195, our PET-based molecular imaging agent for the norepinephrine pathway, we are, among other things, currently designing two Phase 3 clinical trials for the use of LMI 1195 for the diagnosis and management of neuroendocrine tumors in pediatric and adult populations, respectively. The FDA has granted an Orphan Drug designation for the use of LMI 1195 in the management indication. We have also received notice of eligibility for a rare pediatric disease priority review voucher for a subsequent human drug application so long as LMI 1195 is approved by the FDA for its rare pediatric disease indication prior to September 30, 2022. Our investments in these additional clinical activities will increase our operating expenses and impact our results of operations and cash flow and we can give no assurances as to whether or when LMI 1195 would be approved. See Part I, Item 1A. "Risk Factors-The process of developing new drugs and obtaining regulatory approval is complex, time-consuming and costly, and the outcome is not certain" of our Quarterly Report on Form 10-Q for the quarter ended March 31, 2019.

New Initiatives

We continue to evaluate a number of different opportunities to acquire or in-license additional products, businesses and technologies to drive our future growth. We are particularly interested in expanding our presence in oncology. In addition to the Progenics Transaction described above, we recently entered into a strategic collaboration and license agreement with NanoMab Technology Limited, a privately-held biopharmaceutical company focusing on the development of next generation radiopharmaceuticals for cancer precision medicine. We believe this collaboration will provide the first broadly-available imaging biomarker research tool to pharmaceutical companies and academic centers conducting research and development on PD-L1 immuno-oncology treatments, including combination therapies. We can give no assurance as to when or if this collaboration will be successful or accretive to earnings.

See Part I, Item 1A. “Risk Factors-Our business depends on our ability to successfully introduce new products and adapt to a changing technology and medical practice landscape” and “-Our future growth may depend on our ability to identify and acquire or in-license additional products, businesses or technologies, and if we do not successfully do so, or otherwise fail to integrate any new products, lines of business or technologies into our operations, we may have limited growth opportunities and it could result in significant impairment charges or other adverse financial consequences” of our Annual Report on Form 10-K for the year ended December 31, 2018. See also Part II, Item 1A. “Risk Factors - The process of developing new drugs and obtaining regulatory approval is complex, time-consuming and costly, and the outcome is not certain” of our Quarterly Report on form 10-Q for the quarter ended March 31, 2019.

Results of Operations

The following is a summary of our consolidated results of operations:

	Three Months Ended September 30,		Nine Months Ended September 30,	
(in thousands)	**2019**	**2018**	**2019**	**2018**
Revenues	$ 85,776	$ 88,900	$ 257,991	$ 257,103
Cost of goods sold	44,187	44,015	127,745	126,063
Gross profit	41,589	44,885	130,246	131,040
Operating expenses				
Sales and marketing	10,151	10,478	31,496	33,248
General and administrative	18,061	13,609	43,943	37,727
Research and development	4,860	4,316	15,584	12,520
Total operating expenses	33,072	28,403	91,023	83,495
Operating income	8,517	16,482	39,223	47,545
Interest expense	2,356	4,446	11,491	12,794
Loss on extinguishment of debt	—	—	3,196	—
Other expense (income)	804	(799)	(1,695)	(2,055)
Income before income taxes	5,357	12,835	26,231	36,806
Income tax expense	501	3,566	5,014	9,581
Net income	$ 4,856	$ 9,269	$ 21,217	$ 27,225

Comparison of the Periods Ended September 30, 2019 and 2018

Revenues

Segment revenues are summarized by product as follows:

	Three Months Ended September 30,				Nine Months Ended September 30,			
(in thousands)	2019	2018	Change $	Change %	2019	2018	Change $	Change %
U.S.								
DEFINITY	$ 50,917	$ 42,472	$ 8,445	19.9 %	$ 154,099	$ 131,081	$ 23,018	17.6 %
TechneLite	18,281	19,374	(1,093)	(5.6)%	55,204	56,780	(1,576)	(2.8)%
Other nuclear	9,355	11,436	(2,081)	(18.2)%	28,006	37,284	(9,278)	(24.9)%
Rebates and allowances	(3,903)	(3,027)	(876)	28.9 %	(12,035)	(9,316)	(2,719)	29.2 %
Total U.S. revenues	74,650	70,255	4,395	6.3 %	225,274	215,829	9,445	4.4 %
International								
DEFINITY	1,478	1,283	195	15.2 %	4,036	3,427	609	17.8 %
TechneLite	3,466	11,244	(7,778)	(69.2)%	10,794	18,711	(7,917)	(42.3)%
Other nuclear	6,186	6,119	67	1.1 %	17,901	19,138	(1,237)	(6.5)%
Rebates and allowances	(4)	(1)	(3)	300.0 %	(14)	(2)	(12)	600.0 %
Total International revenues	11,126	18,645	(7,519)	(40.3)%	32,717	41,274	(8,557)	(20.7)%
Total revenues	$ 85,776	$ 88,900	$ (3,124)	(3.5)%	$ 257,991	$ 257,103	$ 888	0.3 %

The increase in the U.S. segment revenues for the three months ended September 30, 2019, as compared to the prior year period is primarily due to an $8.4 million increase in DEFINITY revenue as a result of higher unit volumes. This increase was offset, in part, by a $1.1 million decrease in TechneLite revenue driven by temporary supplier disruptions, $2.1 million lower Xenon and other nuclear product volume as well as an increase in rebate and allowance provisions.

The increase in the U.S. segment revenues for the nine months ended September 30, 2019, as compared to the prior year period is primarily due to a $23.0 million increase in DEFINITY revenue as a result of higher unit volumes. This increase was offset, in part, by decreases primarily associated with lower Xenon and other nuclear product volume, an increase in rebate and allowance provisions and lower TechneLite revenue driven by temporary supplier disruptions.

The decrease in the International segment revenues for the three months ended September 30, 2019, as compared to the prior year period is primarily due to a decrease of $7.8 million in TechneLite revenue due primarily to opportunistic incremental demand in the prior year period and temporary supplier disruptions in the current period. This was offset, in part, by an increase of $0.2 million in DEFINITY revenue as a result in higher volume.

The decrease in the International segment revenues for the nine months ended September 30, 2019, as compared to the prior year period is primarily due to a decrease of $7.9 million in TechneLite revenue due primarily to opportunistic incremental demand in the prior year period and temporary supplier disruptions in the current period, lower volumes of other nuclear products and a negative exchange rate impact of approximately $0.4 million, offset in part, by higher DEFINITY revenue driven by increased volume.

Rebates and Allowances

Estimates for rebates and allowances represent our estimated obligations under contractual arrangements with third parties. Rebate accruals and allowances are recorded in the same period the related revenue is recognized, resulting in a reduction to revenue and the establishment of a liability which is included in accrued expenses. These rebates and allowances result from performance-based offers that are primarily based on attaining contractually specified sales volumes and growth, Medicaid rebate programs for our products, administrative fees of group purchasing organizations and certain distributor related commissions. The calculation of the accrual for these rebates and allowances is based on an estimate of the third-party's buying patterns and the resulting applicable contractual rebate or commission rate(s) to be earned over a contractual period.

An analysis of the amount of, and change in, reserves is summarized as follows:

(in thousands)	Rebates and Allowances
Balance, January 1, 2019	$ 4,654
Provision related to current period revenues	11,969
Adjustments relating to prior period revenues	80
Payments or credits made during the period	(11,376)
Balance, September 30, 2019	$ 5,327

Gross Profit

Gross profit is summarized by segment as follows:

	Three Months Ended September 30,				Nine Months Ended September 30,			
(in thousands)	2019	2018	Change $	Change %	2019	2018	Change $	Change %
U.S.	$ 38,614	$ 40,193	$ (1,579)	(3.9)%	$ 122,198	$ 121,163	$ 1,035	0.9 %
International	2,975	4,692	(1,717)	(36.6)%	8,048	9,877	(1,829)	(18.5)%
Total gross profit	$ 41,589	$ 44,885	$ (3,296)	(7.3)%	$ 130,246	$ 131,040	$ (794)	(0.6)%

The decrease in the U.S. segment gross profit for the three months ended September 30, 2019, as compared to the prior year period is primarily due to lower TechneLite, Xenon and other nuclear product unit volumes, as well as an increase in rebate and allowance provisions. This was offset by higher DEFINITY volume.

The increase in the U.S. segment gross profit for the nine months ended September 30, 2019, as compared to the prior year period is primarily due to higher DEFINITY volume. This was offset by lower TechneLite, Xenon and other nuclear product unit volumes, as well as an increase in rebate and allowance provisions.

The decrease in the International segment gross profit for the three and nine months ended September 30, 2019, as compared to the prior year period is primarily due to lower volumes of TechneLite and other nuclear products, offset in part, by higher DEFINITY gross profit driven by increased volume.

Sales and Marketing

Sales and marketing expenses consist primarily of salaries and other related costs for personnel in field sales, marketing and customer service functions. Other costs in sales and marketing expenses include the development and printing of advertising and promotional material, professional services, market research and sales meetings.

Sales and marketing expense is summarized by segment as follows:

	Three Months Ended September 30,				Nine Months Ended September 30,			
(in thousands)	2019	2018	Change $	Change %	2019	2018	Change $	Change %
U.S.	$ 9,571	$ 9,862	$ (291)	(3.0)%	$ 29,909	$ 31,343	$ (1,434)	(4.6)%
International	580	616	(36)	(5.8)%	1,587	1,905	(318)	(16.7)%
Total sales and marketing	$ 10,151	$ 10,478	$ (327)	(3.1)%	$ 31,496	$ 33,248	$ (1,752)	(5.3)%

The decrease in the U.S. segment sales and marketing expenses for the three and nine months ended September 30, 2019, as compared to the prior year period is primarily due to lower employee-related costs and market research activities.

The decrease in the International segment sales and marketing expenses for the three and nine months ended September 30, 2019, as compared to the prior year period is primarily due to lower employee-related costs.

General and Administrative

General and administrative expenses consist of salaries and other related costs for personnel in executive, finance, legal, information technology and human resource functions. Other costs included in general and administrative expenses are professional fees for information technology services, external legal fees, consulting and accounting services as well as bad debt expense, certain facility and insurance costs, including director and officer liability insurance.

General and administrative expense is summarized by segment as follows:

	Three Months Ended September 30,				Nine Months Ended September 30,			
(in thousands)	2019	2018	Change $	Change %	2019	2018	Change $	Change %
U.S.	$ 17,926	$ 13,339	$ 4,587	34.4 %	$ 43,597	$ 37,175	$ 6,422	17.3 %
International	135	270	(135)	(50.0)%	346	552	(206)	(37.3)%
Total general and administrative	$ 18,061	$ 13,609	$ 4,452	32.7 %	$ 43,943	$ 37,727	$ 6,216	16.5 %

The U.S. segment general and administrative expenses for the three months ended September 30, 2019 increased as compared to the prior year period primarily due to acquisition-related costs associated with the pending acquisition of Progenics which was offset, in part, by lower information technology costs as a result of prior year efficiency projects.

The U.S. segment general and administrative expenses for the nine months ended September 30, 2019 increased as compared to the prior year period. The primary driver was an increase in acquisition-related costs associated with the pending acquisition of Progenics and higher employee-related costs. This increase was offset, in part, by lower campus consolidation and information technology costs as a result of prior year efficiency projects.

The International segment general and administrative expenses for the three months ended September 30, 2019 decreased as compared to the prior year period due to lower employee-related costs.

The International segment general and administrative expenses decreased for the nine months ended September 30, 2019, as compared to the prior year period driven primarily by an insurance benefit received in the current period.

Research and Development

Research and development expenses relate primarily to the development of new products to add to our portfolio and costs related to our medical affairs, medical information and regulatory functions. We do not allocate research and development expenses incurred in the U.S. to our International segment.

Research and development expense is summarized by segment as follows:

	Three Months Ended September 30,				Nine Months Ended September 30,			
(in thousands)	2019	2018	Change $	Change %	2019	2018	Change $	Change %
U.S.	$ 4,729	$ 4,095	$ 634	15.5 %	$ 15,031	$ 11,300	$ 3,731	33.0 %
International	131	221	(90)	(40.7)%	553	1,220	(667)	(54.7)%
Total research and development	$ 4,860	$ 4,316	$ 544	12.6 %	$ 15,584	$ 12,520	$ 3,064	(24.5)%

The increase in the U.S. segment research and development expenses for the three months ended September 30, 2019, as compared to the prior year period is primarily due to clinical research expenses related to DEFINITY studies.

The increase in the U.S. segment research and development expenses for the nine months ended September 30, 2019, as compared to the prior year period is primarily due to clinical research expenses related to DEFINITY studies, a one-time payment relating to a collaboration and license agreement entered into in Q2 2019 and higher employee-related costs.

The decrease in the International segment research and development expenses for the three and nine months ended September 30, 2019, as compared to the prior year period is driven by a European Phase 4 study for one of our products in the prior year.

Interest Expense

Interest expense decreased by approximately $1.3 million for the nine months ended September 30, 2019 as compared to the prior year period due to the refinancing of our existing indebtedness.

Loss on Extinguishment of Debt

For the nine months ended September 30, 2019, we incurred a $3.2 million loss on extinguishment of debt in connection with the refinancing of our existing indebtedness.

Income Tax Expense

Income tax expense is summarized as follows:

	Three Months Ended September 30,				Nine Months Ended September 30,			
(in thousands)	2019	2018	Change $	Change %	2019	2018	Change $	Change %
Income tax expense	$ 501	$ 3,566	$ (3,065)	(86.0)%	$ 5,014	$ 9,581	$ (4,567)	(47.7)%

The income tax expense for the three and nine months ended September 30, 2019 and 2018 was primarily due to the income generated in the period and the accrual of interest associated with uncertain tax positions, offset by tax benefits arising from stock compensation deductions and, with respect to the three and nine months ended September 30, 2019, also offset by the reversal of an uncertain tax position.

We regularly assess our ability to realize our deferred tax assets. Assessing the realizability of deferred tax assets requires significant management judgment. In determining whether our deferred tax assets are more-likely-than-not realizable, we evaluate all available positive and negative evidence, and weigh the objective evidence and expected impact. We continue to record a valuation allowance against certain of our foreign net deferred tax assets.

Our effective tax rate for each reporting period is presented as follows:

	Nine Months Ended September 30,	
	2019	2018
Effective tax rate	19.1%	26.0%

Our effective tax rate in fiscal 2019 differs from the U.S. statutory rate of 21% principally due to the impact of U.S. state taxes and the accrual of interest on uncertain tax positions, offset by tax benefits arising from stock compensation deductions, and by the reversal of an uncertain tax position in the third quarter which provided $1.5 million of net tax benefit.

The decrease in effective income tax rate for the nine months ended September 30, 2019 as compared to the prior year period is primarily due to increased 2019 tax benefits arising from the reversal of an unrecognized tax position and an increase in stock compensation deductions.

Liquidity and Capital Resources

Cash Flows

The following table provides information regarding our cash flows:

	Nine Months Ended September 30,	
(in thousands)	2019	2018
Net cash provided by operating activities	$ 57,963	$ 43,887
Net cash used in investing activities	$ (17,320)	$ (11,766)
Net cash used in financing activities	$ (76,058)	$ (3,734)

Net Cash Provided by (Used in) Operating Activities

Net cash provided by operating activities of $58.0 million in the nine months ended September 30, 2019 was driven primarily by net income of $21.2 million plus $9.8 million of depreciation, amortization and accretion expense, stock-based compensation expense of $9.5 million, changes in deferred taxes of $3.8 million and debt extinguishment expense of $3.2 million. These net sources of cash were further increased by a net increase of $7.3 million related to movements in our working capital accounts during the period. The overall increases in cash from our working capital accounts were primarily driven by improved collections related to our accounts receivables and the timing of purchases.

Net cash provided by operating activities of $43.9 million in the nine months ended September 30, 2018 was driven primarily by net income of $27.2 million plus $10.5 million of depreciation, amortization and accretion expense, changes in deferred taxes of $7.2 million and $6.4 million of stock-based compensation expense. These net sources of cash were offset by a net decrease of $12.4 million related to movements in our working capital accounts during the period. The overall decreases in cash from our working capital accounts were primarily driven by the timing of inventory purchases during the period as well as higher accounts receivable as a result of opportunistic incremental demand for TechneLite in our International segment.

Net Cash Used in Investing Activities

Net cash used in investing activities during the nine months ended September 30, 2019 reflected $17.3 million in capital expenditures.

Net cash used in investing activities during the nine months ended September 30, 2018 reflected $12.8 million in capital expenditures offset by the cash proceeds of $1.0 million received from the sale of land.

Net Cash Used in Financing Activities

Net cash used in financing activities during the nine months ended September 30, 2019 is primarily attributable to the net cash outflow of approximately $73 million in connection with the refinancing of our previous 2017 Facility, payments on long-term debt of $2.5 million related to the 2019 Term Facility and payments for minimum statutory tax withholding related to net share settlement of equity awards of $2.4 million. Starting in 2019, we require certain senior executives to cover tax liabilities resulting from the vesting of their equity awards pursuant to sell-to-cover transactions under 10b5-1 plans.

Net cash used in financing activities during the nine months ended September 30, 2018 reflected payments for minimum statutory tax withholding related to net share settlement of equity awards of $3.2 million, payments on long-term debt of $2.1 million, offset by proceeds of $1.2 million from the exercise of stock options.

External Sources of Liquidity

In June 2019, we refinanced our 2017 $275 million five-year term loan facility with the 2019 Term Facility. In addition, we replaced our $75 million revolving facility with the 2019 Revolving Facility. The terms of the 2019 Facility are set forth in the Credit Agreement, dated as of June 27, 2019, by and among us, the lenders from time to time party thereto and Wells Fargo Bank, N.A., as administrative agent and collateral agent. We have the right to request an increase to the 2019 Term Facility or request the establishment of one or more new incremental term loan facilities, in an aggregate principal amount of up to $100 million, plus additional amounts, in certain circumstances.

We are permitted to voluntarily prepay the Term Loans, in whole or in part, without premium or penalty. The 2019 Term Facility requires us to make mandatory prepayments of the outstanding Term Loans in certain circumstances. The 2019 Term Facility amortizes at 5.00% per year through September 30, 2022 and 7.5% thereafter, until its June 27, 2024 maturity date.

Under the terms of the 2019 Revolving Facility, the lenders thereunder agreed to extend credit to us from time to time until June 27, 2024 consisting of revolving loans in an aggregate principal amount not to exceed $200 million at any time outstanding. The 2019 Revolving Facility includes a $20 million sub-facility for the issuance of Letters of Credit. The 2019 Revolving Facility includes a $10 million sub-facility for Swingline Loans. The Letters of Credit, Swingline Loans and the borrowings under the 2019 Revolving Facility are expected to be used for working capital and other general corporate purposes.

Please refer to Note 9, Long-term debt, net and other borrowings, for further details on the 2019 Facility.

Our ability to fund our future capital needs will be affected by our ability to continue to generate cash from operations and may be affected by our ability to access the capital markets, money markets or other sources of funding, as well as the capacity and terms of our financing arrangements.

We may from time to time repurchase or otherwise retire our debt and take other steps to reduce our debt or otherwise improve our balance sheet. These actions may include prepayments of our term loans or other retirements or refinancing of outstanding debt, privately negotiated transactions or otherwise. The amount of debt that may be retired, if any, could be material and would be decided at the sole discretion of our Board of Directors and will depend on market conditions, our cash position and other considerations.

Funding Requirements

Our future capital requirements will depend on many factors, including:

- The costs of acquiring or in-licensing, developing, obtaining regulatory approval for, and commercializing, new products, businesses or technologies, together with the costs of pursuing opportunities that are not eventually consummated;
- The pricing environment and the level of product sales of our currently marketed products, particularly DEFINITY and any additional products that we may market in the future;
- Revenue mix shifts and associated volume and selling price changes that could result from contractual status changes with key customers and additional competition;
- Our investment in the further clinical development and commercialization of existing products and development candidates;
- The costs of investing in our facilities, equipment and technology infrastructure;
- The costs and timing of establishing manufacturing and supply arrangements for commercial supplies of our products and raw materials and components;
- Our ability to have product manufactured and released from JHS and other manufacturing sites in a timely manner in the future;
- The costs of further commercialization of our existing products, particularly in international markets, including product marketing, sales and distribution and whether we obtain local partners to help share such commercialization costs;
- The extent to which we choose to establish collaboration, co-promotion, distribution or other similar arrangements for our marketed products;
- The legal costs relating to maintaining, expanding and enforcing our intellectual property portfolio, pursuing insurance or other claims and defending against product liability, regulatory compliance or other claims; and
- The cost of interest on any additional borrowings which we may incur under our financing arrangements.

Until we successfully become dual sourced for our principal products, we are vulnerable to future supply shortages. Disruption in our financial performance could also occur if we experience significant adverse changes in product or customer mix, broad economic downturns, adverse industry or company conditions or catastrophic external events, including natural disasters and political or military conflict. If we experience one or more of these events in the future, we may be required to implement expense reductions, such as a delay or elimination of discretionary spending in all functional areas, as well as scaling back select operating and strategic initiatives.

If our capital resources become insufficient to meet our future capital requirements, we would need to finance our cash needs through public or private equity offerings, debt financings, assets securitizations, sale-leasebacks or other financing or strategic alternatives, to the extent such transactions are permissible under the covenants of our Credit Agreement. Additional equity or debt financing, or other transactions, may not be available on acceptable terms, if at all. If any of these transactions require an amendment or waiver under the covenants in our Credit Agreement, which could result in additional expenses associated with obtaining the amendment or waiver, we will seek to obtain such a waiver to remain in compliance with those covenants. However, we cannot be assured that such an amendment or waiver would be granted, or that additional capital will be available on acceptable terms, if at all.

At September 30, 2019, our only current committed external source of funds is our borrowing availability under our 2019 Revolving Facility. We had $78.1 million of cash and cash equivalents at September 30, 2019. Our 2019 Facility contains a number of affirmative, negative, reporting and financial covenants, in each case subject to certain exceptions and materiality thresholds. Incremental borrowings under the 2019 Revolving Facility may affect our ability to comply with the covenants in the 2019 Facility, including the financial covenants restricting consolidated net leverage and interest coverage. Accordingly, we may be limited in utilizing the full amount of our 2019 Revolving Facility as a source of liquidity.

In addition, on October 1, 2019, we entered into the Merger Agreement to acquire Progenics in an all-stock transaction. Under the terms of the Merger Agreement, we will acquire all of the issued and outstanding shares of Progenics common stock at a fixed exchange ratio. Progenics shareholders will receive 0.2502 shares of our common stock for each share of Progenics common stock, representing an approximately 35% aggregate ownership stake in the combined company. The Progenics Transaction was unanimously approved by the Boards of Directors of both companies and is subject to the terms and conditions set forth in the

agreement, including, among other things, the affirmative vote of a majority of the outstanding shares of common stock of Progenics and a majority of votes cast by the holders of the common stock of the Company, and the expiration or early termination of the applicable waiting period under the HSR Act, which, as noted above, has been obtained by grant of early termination of the HSR Act waiting period on October 25, 2019. The Progenics Transaction is expected to close in the first quarter of 2020. Although the Progenics Transaction is structured as a stock-for-stock exchange, we will incur legal, accounting, financial advisory, consulting and printing fees, and transition, integration and other costs which we intend to fund from our available cash and the available cash of Progenics. See the Company's Current Report on Form 8-K dated October 1, 2019 for further information regarding the Merger Agreement and the proposed Progenics acquisition.

Based on our current operating plans, we believe that our existing cash and cash equivalents, results of operations and availability under our 2019 Revolving Facility will be sufficient to continue to fund our liquidity requirements for the foreseeable future.

Critical Accounting Policies and Estimates

The discussion and analysis of our financial condition and results of operations are based on our condensed consolidated financial statements, which have been prepared in accordance with U.S. GAAP. The preparation of these condensed consolidated financial statements require us to make estimates and judgments that affect our reported assets and liabilities, revenues and expenses, and other financial information. Actual results may differ materially from these estimates under different assumptions and conditions. In addition, our reported financial condition and results of operations could vary due to a change in the application of a particular accounting standard.

There have been no other significant changes to our critical accounting policies or in the underlying accounting assumptions and estimates used in such policies in the nine months ended September 30, 2019. For further information, refer to our summary of significant accounting policies and estimates in our Annual Report on Form 10-K filed for the year ended December 31, 2018.

Off-Balance Sheet Arrangements

We are required to provide the U.S. Nuclear Regulatory Commission and Massachusetts Department of Public Health financial assurance demonstrating our ability to fund the decommissioning of our North Billerica, Massachusetts production facility upon closure, though we do not intend to close the facility. We have provided this financial assurance in the form of a $28.2 million surety bond.

Since inception, we have not engaged in any other off-balance sheet arrangements, including structured finance, special purpose entities or variable interest entities.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

For quantitative and qualitative disclosures about market risk, except as set forth below, see Part II, Item 7A, "Quantitative and Qualitative Disclosures About Market Risk," of our Annual Report on Form 10-K for the year ended December 31, 2018. Our exposures to market risk have not changed materially since December 31, 2018.

Foreign Currency Risk

We have entered into foreign currency forward contracts primarily to reduce the effects of fluctuating foreign currency exchange rates. We may enter into additional foreign currency forward contracts when deemed appropriate. We do not enter into foreign currency forward contracts for speculative or trading purposes.

Item 4. Controls and Procedures

Disclosure Controls and Procedures

The Company's management, with the participation of the Company's Chief Executive Officer ("CEO") and Chief Financial Officer ("CFO"), its principal executive officer and principal financial officer, respectively, has evaluated the effectiveness of the Company's disclosure controls and procedures as defined in Rule 13a-15(e) and 15d-15(e) of the Exchange Act. Based on that evaluation, the Company's CEO and CFO concluded that the Company's disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) were effective as of the period covered by this report.

Changes in Internal Controls Over Financial Reporting

There were no changes in our internal control over financial reporting during the quarter ended September 30, 2019 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

Item 1. Legal Proceedings

From time to time, we are a party to various legal proceedings arising in the ordinary course of business. In addition, we have in the past been, and may in the future be, subject to investigations by governmental and regulatory authorities which expose us to greater risks associated with litigation, regulatory or other proceedings, as a result of which we could be required to pay significant fines or penalties. The costs and outcome of litigation, regulatory or other proceedings cannot be predicted with certainty, and some lawsuits, claims, actions or proceedings may be disposed of unfavorably to us. In addition, intellectual property disputes often have a risk of injunctive relief which, if imposed against us, could materially and adversely affect our financial condition or results of operations.

In October 2019, we were awarded damages in our arbitration with Pharmalucence in connection with a Manufacturing and Supply Agreement, dated November 12, 2013, under which Pharmalucence agreed to manufacture and supply DEFINITY for us. The commercial arrangement contemplated by that agreement was repeatedly delayed and ultimately never successfully realized. After extended settlement discussions between Sun Pharma, the ultimate parent of Pharmalucence, and us, which did not lead to a mutually acceptable outcome, on November 10, 2017, we filed an arbitration demand (and later an amended arbitration demand) with the American Arbitration Association against Pharmalucence, alleging breach of contract, breach of the covenant of good faith and fair dealing, tortious misrepresentation and violation of the Massachusetts Consumer Protection Law, also known as Chapter 93A. In October 2019, we were awarded a total of approximately $3.5 million, consisting of damages, pre-judgment interest, and certain arbitration fees, compensation and expenses. Pharmalucence has filed a motion to reduce the award to $2.3 million (to correct for a purported “computational error”). We will record the financial statement impact of the settlement award when the proceeds are received.

As of September 30, 2019, except as disclosed above we had no material ongoing litigation in which we were a party. In addition, we had no material ongoing regulatory or other proceeding and no knowledge of any investigations by governmental or regulatory authorities in which we are a target, in either case that we believe could have a material and adverse effect on our current business.

Item 1A. Risk Factors

There have been no material changes to the risk factors set forth in our Annual Report on Form 10-K for the year ended December 31, 2018 and our Quarterly Reports on Form 10-Q for the periods ended March 31, 2019 and June 30, 2019, except as set forth below.

The Progenics Transaction may not occur, and if it does, it may not be accretive and may cause dilution to our earnings per share, which may negatively affect the market price of our common stock.

Although we currently anticipate that the Progenics Transaction will occur and will be accretive to adjusted earnings per share by 2022 and GAAP-reported earnings per share by 2023, these expectations are based on assumptions about our and Progenics’ business and preliminary estimates, which may change materially. Certain other expenses to be paid in connection with the Progenics Transaction may cause dilution to our earnings per share or decrease or delay the expected accretive effect of the Progenics Transaction and could cause a decrease in the market price of our common stock. In addition, the Progenics Transaction may not occur or we could encounter additional transaction-related costs or other factors such as the failure to realize all of the benefits anticipated in the Progenics Transaction, including synergies, cost savings, innovation and operational efficiencies and revenue growth from the combination. All of these factors could cause dilution to our earnings per share or decrease or delay the expected accretive effect of the Progenics Transaction and cause a decrease in the market price of our common stock.

The Progenics Transaction is subject to conditions, some or all of which may not be satisfied, or completed on a timely basis, if at all. Failure to complete the Progenics Transaction could have material adverse effects on our business.

The completion of the Progenics Transaction is subject to a number of conditions, including, among others, the approval of the Merger Agreement by a majority of votes cast by the holders of the common stock of the Company and a majority of the outstanding shares of Progenics common stock, the receipt of U.S. federal antitrust clearance, the absence of any law or order prohibiting the consummation of the Progenics Transaction or the issuance of the shares of our common stock as deal consideration, the effectiveness of a registration statement covering the issuance of shares of our common stock to the stockholders of Progenics, the absence of a material adverse effect on us or Progenics, and other conditions customary for a transaction of this type, which make the completion of the Progenics Transaction and timing thereof uncertain. In addition, the Merger Agreement contains certain termination rights for both us and Progenics, including, among other things (i) if the Progenics Transaction is not consummated on or before the “outside date” of July 1, 2020, (ii) if the required approval of our stockholders or the Progenics stockholders is not obtained, (iii) if the other party willfully breaches its non-solicitation obligations in the Merger Agreement, (v) if the other party materially breaches its representations, warranties or covenants and fails to cure such breach, (vi) if any law or

order prohibiting the Progenics Transaction or the issuance of the shares of our common stock forming part of the merger consideration has become final and non-appealable, or (vii) if the board of directors of the other party fails to include such party's recommendation in favor of the Progenics Transaction in the joint proxy statement/prospectus or changes its recommendation in connection with the Progenics Transaction. If the Progenics Transaction is not completed, our ongoing business may be materially adversely affected and, without realizing any of the benefits that we could have realized had the Progenics Transaction been completed, we will be subject to a number of risks, including the following:

- The market price of our common stock could decline;
- We could owe substantial termination fees to Progenics under certain circumstances;
- Time and resources committed by our management to matters relating to the Progenics Transaction could otherwise have been devoted to pursuing other beneficial opportunities;
- We may experience negative reactions from the financial markets or from our customers, suppliers or employees; and
- We will be required to pay our costs relating to the Progenics Transaction, such as legal, accounting, financial advisory, consulting and printing fees, whether or not the Progenics Transaction is completed.

Upon termination of the Merger Agreement, we will be required to pay to Progenics a termination fee of $18.34 million if: (i) we willfully breach our nonsolicitation obligations in the Merger Agreement; (ii) our Board changes its recommendation in support of the merger as a result of a superior proposal or intervening event; or (iii) our stockholders do not approve the issuance of common stock in connection with the merger (if at such time Progenics has the right to terminate the Merger Agreement because we willfully breached our nonsolicitation obligations in the Merger Agreement or our board changed its recommendation in support of the merger as a result of a superior proposal or intervening event). In addition, we will be required to pay to Progenics the termination fee if we receive an acquisition proposal, the Merger Agreement is later terminated under certain circumstances and within twelve months after termination we enter into an agreement with respect to (or consummate) an acquisition proposal for 50% or more of our stock or assets.

In addition, if the Progenics Transaction is not completed, we could be subject to litigation related to any failure to complete the Progenics Transaction or related to any enforcement proceeding commenced against us to perform our obligations under the Merger Agreement. If any such risk materializes, it could adversely impact our ongoing business. Similarly, delays in the completion of the Progenics Transaction could, among other things, result in additional transaction costs, loss of revenue or other negative effects associated with uncertainty about completion of the Progenics Transaction and cause us not to realize some or all of the benefits that we expect to achieve if the Progenics Transaction is successfully completed within its expected timeframe. We cannot assure you that the conditions to the closing of the Progenics Transaction will be satisfied or waived or that the Progenics Transaction will be consummated.

We and Progenics are each subject to business uncertainties and contractual restrictions while the Progenics Transaction is pending, which could adversely affect the business and operations of us or the combined company.

In connection with the pendency of the Progenics Transaction, it is possible that some customers, suppliers and other persons with whom we or Progenics has a business relationship may delay or defer certain business decisions or might decide to seek to terminate, change or renegotiate their relationships with us or Progenics, as the case may be, as a result of the Progenics Transaction, which could negatively affect our current or the combined company's future revenues, earnings and cash flows, as well as the market price of our common stock, regardless of whether the Progenics Transaction is completed. Under the terms of the Merger Agreement, we and Progenics are each subject to certain restrictions on the conduct of our businesses prior to completing the Progenics Transaction, which could adversely affect each party's ability to execute certain of its business strategies. Such limitations could adversely affect each party's business and operations prior to the completion of the Progenics Transaction. Each of the risks described above may be exacerbated by delays or other adverse developments with respect to the completion of the Progenics Transaction.

Uncertainties associated with the Progenics Transaction may cause a loss of management personnel and other key employees, and we and Progenics may have difficulty attracting and motivating management personnel and other key employees, which could adversely affect the future business and operations of the combined company.

We and Progenics are each dependent on the experience and industry knowledge of our respective management personnel and other key employees to execute our business plans. The combined company's success after the completion of the Progenics Transaction will depend in part upon the ability of each of us and Progenics to attract, motivate and retain key management personnel and other key employees. Prior to completion of the Progenics Transaction, current and prospective employees of each of us and Progenics may experience uncertainty about their roles within the combined company following the completion of the Progenics Transaction, which may have an adverse effect on the ability of each of us and Progenics to attract, motivate or retain management personnel and other key employees. In addition, no assurance can be given that the combined company will be able to

attract, motivate or retain management personnel and other key employees of each of us and Progenics to the same extent that we and Progenics have previously been able to attract or retain their own employees.

The Progenics Transaction is subject to the expiration or termination of applicable waiting periods and the receipt of approvals, consents or clearances from regulatory authorities that may impose conditions that could have an adverse effect on us or the combined company or, if not obtained, could prevent completion of the Progenics Transaction.

Before the Progenics Transaction may be completed, any approvals, consents or clearances required in connection with the Progenics Transaction must have been obtained, in each case, under applicable law. Consummation of the Progenics Transaction is conditioned upon, among other things, the expiration or termination of the waiting period (and any extensions thereof) applicable to the Progenics Transaction under the HSR Act, which has been obtained by grant of early termination of the HSR Act waiting period on October 25, 2019. Notwithstanding the grant of early termination, at any time before or after the Progenics Transaction is consummated, the Antitrust Division of the United States Department of Justice, the Federal Trade Commission or U.S. state attorneys general could take action under the antitrust laws in opposition to the Progenics Transaction, including seeking to enjoin completion of the Progenics Transaction, condition completion of the Progenics Transaction upon the divestiture of assets, or impose restrictions on post-merger operations. Any such requirements or restrictions may prevent or delay completion of the Progenics Transaction or may reduce the anticipated benefits of the Progenics Transaction.

The Merger Agreement limits our ability to pursue alternatives to the merger and may discourage other companies from trying to acquire us.

The Merger Agreement contains a "no solicitation" covenant that restricts our ability to solicit, initiate, seek or support, or knowingly encourage or facilitate, any inquiries or proposals with respect to certain acquisition proposal relating to the Company; engage or participate in negotiations with respect to any acquisition proposal; provide a third party confidential information with respect to, or have or participate in any discussions with, any person relating to any acquisition proposals; or enter into any acquisition agreement with respect to certain unsolicited proposals relating to an acquisition proposal. In the event we receive an unsolicited acquisition proposal, we must promptly communicate the receipt of such proposal and provide copies of material communications and information, including the terms and conditions of such proposal, to the other party. If, in response to such proposals and subject to certain conditions, we intend to effect a change in our board of directors' recommendation to stockholders, we must provide Progenics an opportunity to offer to modify the terms of the Merger Agreement in response to such competing acquisition proposal before our board may withdraw or qualify its respective recommendation. The Merger Agreement further provides that in the event of a termination of the Merger Agreement under certain specified circumstances, including a termination by Progenics following a change in recommendation by our board or a willful and material breach of the no-solicitation provision applicable to us, we may be required to pay Progenics a termination fee equal to $18,340,000.

These provisions could discourage a potential third-party acquirer that might have an interest in acquiring all or a significant portion of the Company from considering or proposing that acquisition, even if it were prepared to pay consideration with a higher per share cash or total value than the total value proposed to be paid in the merger. These provisions might also result in a potential third-party acquirer proposing to pay a lower price in an acquisition proposal than it might otherwise have proposed to pay because of the added expense of the termination fee and other fees and expenses that may become payable in certain circumstances.

Current stockholders will have a reduced ownership and voting interest in the Company after the Progenics Transaction and will exercise less influence over the management of the combined company.

Upon completion of the Progenics Transaction, we expect to issue approximately [•] shares of our common stock to Progenics stockholders. As a result, it is expected that, immediately after completion of the Progenics Transaction, former Progenics stockholders will own approximately 35% of our outstanding shares of common stock. In addition, shares of our common stock may be issued from time to time following the Progenics Transaction to holders of Progenics equity awards on the terms set forth in the Merger Agreement. Consequently, our current stockholders in the aggregate will have less influence over the management and policies of the Company than they currently have.

We and Progenics may be targets of securities class action and derivative lawsuits that could result in substantial costs and may delay or prevent the Progenics Transaction from being completed.

Securities class action lawsuits and derivative lawsuits are often brought against public companies that have entered into merger agreements. Even if the lawsuits are without merit, defending against these claims can result in substantial costs and divert management time and resources. An adverse judgment could result in monetary damages, which could have a negative impact on our and Progenics' respective liquidity and financial condition. Additionally, if a plaintiff is successful in obtaining an injunction prohibiting completion of the Progenics Transaction, then that injunction may delay or prevent the Progenics Transaction from being completed, or from being completed within the expected timeframe, which may adversely affect our business, financial

position and results of operation. As of the date of filing of this report, we are not aware of any securities class action lawsuits or derivative lawsuits having been filed in connection with the Progenics Transaction.

Completion of the Progenics Transaction may trigger change in control or other provisions in certain agreements to which Progenics or its subsidiaries are a party, which may have an adverse impact on the combined company's business and results of operations.

The completion of the Progenics Transaction may trigger change in control and other provisions in certain agreements to which Progenics or its subsidiaries are a party. If we and Progenics are unable to negotiate waivers of those provisions, the counterparties may exercise their rights and remedies under the agreements, potentially terminating the agreements or seeking monetary damages. Even if we and Progenics are able to negotiate waivers, the counterparties may require a fee for such waivers or seek to renegotiate the agreements on terms less favorable to Progenics or the combined company. Any of the foregoing or similar developments may have an adverse impact on the combined company's business and results of operations.

The combined company may be unable to successfully integrate the Progenics business into our business and realize the anticipated benefits of the Progenics Transaction.

The success of the Progenics Transaction will depend, in part, on the combined company's ability to successfully combine the business of Progenics with our business, which currently operate as independent public companies, and realize the anticipated benefits, including synergies, cost savings, innovation and operational efficiencies and revenue growth from the combination. If the combined company is unable to achieve these objectives within the anticipated time frame, or at all, the anticipated benefits may not be realized fully or at all, or may take longer to realize than expected and the value of its common stock may be harmed. Additionally, as a result of the Progenics Transaction, rating agencies may take negative actions against the combined company's credit ratings, which may increase the combined company's financing costs. The Progenics Transaction involves the integration of Progenics's business into our existing business, which is expected to be a complex, costly and time-consuming process. We and Progenics have not previously completed a transaction comparable in size or scope to the Progenics Transaction. The integration may result in material challenges, including, without limitation:

- The diversion of management's attention from ongoing business concerns and performance shortfalls at one or both of the companies as a result of the devotion of management's attention to the Progenics Transaction;
- Managing a larger combined company;
- Maintaining employee morale and attracting, motivating and retaining management personnel and other key employees;
- The possibility of faulty assumptions underlying expectations regarding the integration process;
- Retaining existing business and operational relationships and attracting new business and operational relationships;
- Integrating corporate and administrative infrastructures in geographically separate organizations and eliminating duplicative expenses;
- Unanticipated issues in integrating information technology, communications and other systems;
- Unanticipated changes in federal or state laws or regulations; and
- Unforeseen expenses or delays associated with the Progenics Transaction.

Many of these factors will be outside of the combined company's control and any one of them could result in delays, increased costs, decreases in the amount of expected revenues and diversion of management's time and energy, which could materially affect the combined company's financial position, results of operations and cash flows. We and Progenics have operated, and until completion of the Progenics Transaction will continue to operate, independently. We and Progenics are currently permitted to conduct only limited planning for the integration of the two companies following the Progenics Transaction and have not yet determined the exact nature of how the businesses and operations of the two companies will be combined after the combination. The actual integration of Progenics with our business may result in additional or unforeseen expenses, and the anticipated benefits of the integration plan may not be realized. These integration matters could have an adverse effect on (i) each of us and Progenics during this transition period and (ii) the combined company for an undetermined period after completion of the Progenics Transaction. In addition, any actual cost savings of the Progenics Transaction could be less than anticipated.

The future results of the combined company may be adversely impacted if the combined company does not effectively manage its expanded operations following the completion of the Progenics Transaction.

Following the completion of the Progenics Transaction, the size of the combined company's business will be significantly larger than the current size of our business. The combined company's ability to successfully manage this expanded business will depend, in part, upon management's ability to design and implement strategic initiatives that address not only the integration of two independent stand-alone companies, but also the increased scale and scope of the combined business with its associated increased costs and complexity. The combined company may not be successful or may not realize the expected operating efficiencies, cost savings and other benefits currently anticipated from the Progenics Transaction.

The combined company is expected to incur substantial expenses related to the completion of the Progenics Transaction and the integration of the Progenics business with our business.

The combined company is expected to incur substantial expenses in connection with the completion of the Progenics Transaction, including seeking approval from our stockholders, and the integration of the Progenics business with our business. There are a large number of processes, policies, procedures, operations, technologies and systems that must be integrated, including purchasing, accounting and finance, sales, payroll, pricing, revenue management, marketing and benefits. The substantial majority of these costs will be non-recurring expenses related to the Progenics Transaction, facilities and systems consolidation costs. The combined company may incur additional costs to maintain employee morale and to attract, motivate or retain management personnel or key employees. We will also incur transaction fees and costs related to formulating integration plans for the combined business, and the execution of these plans may lead to additional unanticipated costs. Additionally, as a result of the Progenics Transaction, rating agencies may take negative actions with regard to the combined company's credit ratings, which may increase the combined company's financing costs. These incremental transaction and acquisition-related costs may exceed the savings the combined company expects to achieve from the elimination of duplicative costs and the realization of other efficiencies related to the integration of the businesses, particularly in the near term and in the event there are material unanticipated costs.

We will no longer qualify as an "emerging growth company" after December 31, 2019, and as a result, we will have to comply with increased disclosure and compliance requirements.

We are currently an "emerging growth company" as defined in the JOBS Act, but, based on the market value of our common stock held by non-affiliates exceeded $700 million as of the last business day of our second fiscal quarter of 2019, we will no longer qualify as an "emerging growth company" but will instead be deemed a large accelerated filer as of December 31, 2019.

As a large accelerated filer, we will be subject to certain disclosure and compliance requirements that apply to other public companies but that did not previously apply to us due to our status as an emerging growth company. These requirements include, but are not limited to:

- The requirement that our independent registered public accounting firm attest to the effectiveness of our internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act of 2002;
- Compliance with any requirement that may be adopted by the Public Company Accounting Oversight Board regarding mandatory audit firm rotation or a supplement to the auditor's report providing additional information about the audit and the financial statements;
- The requirement that we provide full and more detailed disclosures regarding executive compensation; and
- The requirement that we hold a non-binding advisory vote on executive compensation and obtain stockholder approval of any golden parachute payments not previously approved.

We expect that the loss of emerging growth company status and compliance with the additional requirements of being a large accelerated filer will increase our legal, accounting and financial compliance costs and costs associated with investor relations activities, and cause management and other personnel to divert attention from operational and other business matters to devote substantial time to public company reporting requirements. In addition, if we are not able to comply with changing requirements in a timely manner, the market price of our stock could decline and we could be subject to sanctions or investigations by the stock exchange on which our common stock is listed, the Securities and Exchange Commission or other regulatory authorities, which would require additional financial and management resources.

As of the end of this year, we will be required to implement additional procedures and practices related to internal control over financial reporting, and we may identify deficiencies that we may not be able to remediate in time to meet the necessary deadline.

Pursuant to Section 404 of the Sarbanes-Oxley Act, management of our Company is required to report upon the effectiveness of our internal control over financial reporting. Since we will be deemed a large accelerated filer, our independent registered public accounting firm will be required to attest to the effectiveness of our internal control over financial reporting on an annual basis beginning with our Annual Report on Form 10-K for the year ended December 31, 2019. The rules governing the standards that must be met for our management and independent registered public accounting firm to assess our internal control over financial reporting are complex and require significant documentation, testing and possible remediation of our existing controls and the incurrence of significant additional expenditures. In connection with our and our independent registered public accounting firm's evaluations of our internal control over financial reporting, we may need to upgrade systems, including information technology; implement additional financial and management controls, reporting systems, and procedures; and hire additional accounting and finance staff.

Any failure to implement required new or improved controls, or difficulties encountered in their implementation, could cause us to fail to meet our reporting obligations. In addition, any testing by us or our independent registered public accounting firm conducted in connection with Section 404 of the Sarbanes-Oxley Act may reveal deficiencies in our internal control over financial reporting that are deemed to be material weaknesses or that may require prospective or retroactive changes to our financial statements or identify other areas for further attention or improvement. Inferior internal controls could also cause investors to lose confidence in our reported financial information, which could have a negative effect on the trading price of our common stock. Internal control deficiencies could also result in a restatement of our financial results in the future. We could become subject to stockholder or other third party litigation, as well as investigations by the SEC or other regulatory authorities, which could require additional financial and management resources and could result in fines, trading suspensions, payment of damages or other remedies. Further, any delay in compliance with the auditor attestation provisions of Section 404 could subject us to a variety of administrative sanctions, including ineligibility for short-form resale registration, action by the SEC and the suspension or delisting of our common stock, which could reduce the trading price of our common stock and could harm our business.

Risks Related to Our Current Products and Revenues

The global supply of Moly is fragile and not stable. Our dependence on a limited number of third party suppliers for Moly could prevent us from delivering some of our products to our customers in the required quantities, within the required timeframe, or at all, which could result in order cancellations and decreased revenues.

A critical ingredient of TechneLite is Moly. We currently purchase finished Moly from three of the four main processing sites in the world, namely ANSTO in Australia, IRE in Belgium and NTP in South Africa. These processing sites provide us Moly from five of the six main Moly-producing reactors in the world, namely OPAL in Australia, BR2 in Belgium, LVR-15 in the Czech Republic, HFR in The Netherlands, and SAFARI in South Africa.

The NTP processing facility has had periodic outages in 2017, 2018 and 2019. When NTP was not producing, we relied on Moly supply from both IRE and ANSTO to limit the impact of the NTP outages. As ANSTO transitioned from its existing Moly processing facility to its new Moly processing facility in the second quarter of 2019, ANSTO Moly production volumes decreased. In the second quarter of 2019, ANSTO experienced facility issues in its existing Moly processing facility which resulted in a decrease in Moly available to us. In addition, as ANSTO transitioned from its existing Moly processing facility to its new Moly processing facility in the second quarter of 2019, ANSTO experienced start-up and transition challenges, which also resulted in a decrease in Moly available to us. Further, starting in late June 2019 and through the date of this filing, ANSTO's new Moly processing facility has experienced unscheduled production outages, and we are now relying on IRE and NTP to limit the impact of those ANSTO outages. Because of these supply chain constraints, depending on reactor and processor schedules and operations, we have not been able to fill some or all of the demand for our TechneLite generators on certain manufacturing days, consequently decreasing revenue and cash flow from this product line during the outage periods as compared to prior periods.

ANSTO's new Moly processing facility, could eventually increase ANSTO's production capacity from approximately 2,000 curies per week to 3,500 curies per week with additional committed financial and operational resources. We recently received approval from both the FDA and Health Canada for our use of Moly supplied from ANSTO's new Moly processing facility in manufacturing our TechneLite generators. At full ramp-up capacity, ANSTO's new facility could provide incremental supply to our globally diversified Moly supply chain and therefore mitigate some risk among our Moly suppliers, although we can give no assurances to that effect and a prolonged disruption of service from one of our three Moly processing sites or one of their main Moly-producing reactors could have a substantial negative effect on our business, results of operations, financial condition and cash flows.

We are also pursuing additional sources of Moly from potential new producers around the world to further augment our current supply. In November 2014, we entered into a strategic arrangement with SHINE for the future supply of Moly. Under the terms of the supply agreement, SHINE will provide Moly produced using its proprietary LEU-solution technology for use in our TechneLite generators once SHINE's facility becomes operational and receives all necessary regulatory approvals, which SHINE now estimates will occur in 2022. However, we cannot assure you that SHINE or any other possible additional sources of Moly will result in commercial quantities of Moly for our business, or that these new suppliers together with our current suppliers will be able to deliver a sufficient quantity of Moly to meet our needs.

U.S., Canadian and international governments have encouraged the development of a number of alternative Moly production projects with existing reactors and technologies as well as new technologies. However, we cannot say when, or if, the Moly produced from these projects will become available. As a result, there is a limited amount of Moly available which could limit the quantity of TechneLite that we could manufacture, sell and distribute, resulting in a further substantial negative effect on our business, results of operations, financial condition and cash flows.

Most of the global suppliers of Moly rely on Framatone-CERCA in France to fabricate uranium targets and in some cases fuel for research reactors from which Moly is produced. Absent a new supplier, a supply disruption relating to uranium targets or fuel could have a substantial negative effect on our business, results of operations, financial condition and cash flows.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

Repurchases

The following table presents information with respect to purchases of common stock we made during the quarter ended September 30, 2019. The Company does not currently have a share repurchase program in effect. The 2015 Equity Incentive Plan, adopted by the Company on June 24, 2015, as amended on April 26, 2016 and as further amended on April 27, 2017 and April 24, 2019 (the "2015 Plan"), provides for the withholding of shares to satisfy minimum statutory tax withholding obligations. It does not specify a maximum number of shares that can be withheld for this purpose. The shares of common stock withheld to satisfy minimum tax withholding obligations may be deemed to be "issuer purchases" of shares that are required to be disclosed pursuant to this Item 2.

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Programs	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Program
July 2019**	512	$ 26.07	*	*
August 2019**	2,267	$ 29.01	*	*
September 2019**	13,327	$ 27.82	*	*
Total	16,106		*	

* These amounts are not applicable as the Company does not have a share repurchase program in effect.

** Reflects shares withheld to satisfy minimum statutory tax withholding amounts due from employees related to the receipt of stock which resulted from the exercise or vesting of equity awards.

Dividend Policy

We did not declare or pay any dividends, and we do not currently intend to pay dividends in the foreseeable future. We currently expect to retain future earnings, if any, for the foreseeable future, to repay indebtedness and to finance the growth and development of our business. Our ability to pay dividends is restricted by our financing arrangements. See Part I, Item 2. "Management's Discussion and Analysis of Financial Condition and Results of Operations-Liquidity and Capital Resources-External Sources of Liquidity" for further information.

Item 3. Defaults Upon Senior Securities

None.

Item 4. Mine Safety Disclosures

Not applicable.

Item 5. Other Information

None.

Item 6. Exhibits

EXHIBIT NUMBER	DESCRIPTION OF EXHIBITS	INCORPORATED BY REFERENCE			
		FORM	FILE NUMBER	EXHIBIT	FILING DATE
31.1*	Certification of Chief Executive Officer pursuant to Exchange Act Rule 13a-14(a).				
31.2*	Certification of Chief Financial Officer pursuant to Exchange Act Rule 13a-14(a).				
32.1**	Certification pursuant to 18 U.S.C. Section 1350.				
101.INS*	XBRL Instance Document				
101.SCH*	XBRL Taxonomy Extension Schema Document				
101.CAL*	XBRL Taxonomy Extension Calculation Linkbase Document				
101.DEF*	XBRL Taxonomy Extension Definition Linkbase Document				
101.LAB*	XBRL Taxonomy Extension Label Linkbase Document				
101.PRE*	XBRL Taxonomy Extension Presentation Linkbase Document				

* Filed herewith.
** Furnished herewith.
\+ Indicates management contract or compensatory plan or arrangement.

SIGNATURES

Pursuant to the requirements 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.

LANTHEUS HOLDINGS, INC.

By:	/s/ MARY ANNE HEINO
Name:	Mary Anne Heino
Title:	*President and Chief Executive Officer (Principal Executive Officer)*
Date:	October 31, 2019

LANTHEUS HOLDINGS, INC.

By:	/s/ ROBERT J. MARSHALL, JR.
Name:	Robert J. Marshall, Jr.
Title:	*Chief Financial Officer and Treasurer (Principal Financial Officer and Principal Accounting Officer)*
Date:	October 31, 2019

Exhibit 31.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Mary Anne Heino, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Lantheus Holdings, 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 and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter 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 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: October 31, 2019

/s/ MARY ANNE HEINO

Name: Mary Anne Heino

Title: *President and Chief Executive Officer*

(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION OF CHIEF FINANCIAL OFFICER PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Robert J. Marshall, Jr., certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Lantheus Holdings, 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 and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
   a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
   b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
   c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
   d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter 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 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: October 31, 2019

/s/ ROBERT J. MARSHALL, JR.

Name: Robert J. Marshall, Jr.

Title: *Chief Financial Officer and Treasurer*

(Principal Financial Officer and Principal Accounting Officer)

Exhibit 32.1

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, Mary Anne Heino, the Chief Executive Officer, and Robert J. Marshall, Jr., the Chief Financial Officer, of Lantheus Holdings, Inc. (the "Company"), hereby certify, that, to their knowledge:

1. The Quarterly Report on Form 10-Q for the period ended September 30, 2019 (the "Report") of the Company fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

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

Date: October 31, 2019

/s/ MARY ANNE HEINO

Name: Mary Anne Heino
Title: *President and Chief Executive Officer*
(Principal Executive Officer)

Date: October 31, 2019

/s/ ROBERT J. MARSHALL, JR.

Name: Robert J. Marshall, Jr.
Title: *Chief Financial Officer and Treasurer*
(Principal Financial Officer and Principal Accounting Officer)

A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.