

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
WASHINGTON, DC 20549

FORM 10-Q

Quarterly report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

For the quarterly period ended June 30, 2014

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 001-33957

HARVARD BIOSCIENCE, INC.
(Exact Name of Registrant as Specified in Its Charter)

Delaware
(State or Other Jurisdiction of
Incorporation or Organization)

84 October Hill Road, Holliston, MA
(Address of Principal Executive Offices)

04-3306140
(IRS Employer
Identification No.)

01746
(Zip Code)

(508) 893-8999
(Registrant's telephone number, including area code)

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 and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted 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 and post such files). YES NO

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

Large accelerated filer

Accelerated filer

Non-accelerated filer (Do not check if a smaller reporting company)

Smaller reporting company

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

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date.

As of August 1, 2014, there were 32,296,691 shares of common stock, par value \$0.01 per share, outstanding.

HARVARD BIOSCIENCE, INC.
FORM 10-Q
For the Quarter Ended June 30, 2014

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PART I. FINANCIAL INFORMATION

Item 1. Financial Statements.

HARVARD BIOSCIENCE, INC.
CONSOLIDATED BALANCE SHEETS
(Unaudited, in thousands, except share and per share data)

	June 30, 2014	December 31, 2013
Assets		
Current assets:		
Cash and cash equivalents	\$ 26,434	\$ 25,771
Accounts receivable, net of allowance for doubtful accounts of \$328 and \$358, respectively	14,308	13,884
Inventories	17,211	15,777
Deferred income tax assets - current	1,545	1,547
Other receivables and other assets	4,562	3,771
Assets held-for-sale, net	331	-
Total current assets	64,391	60,750
Property, plant and equipment, net	4,128	4,375
Deferred income tax assets - non-current	13,006	13,116
Amortizable intangible assets, net	17,679	19,009
Goodwill	36,839	36,605
Other indefinite lived intangible assets	1,287	1,289
Other assets	378	316
Total assets	<u>\$ 137,708</u>	<u>\$ 135,460</u>
Liabilities and Stockholders' Equity		
Current liabilities:		
Current portion, long-term debt	\$ 5,000	\$ 5,000
Accounts payable	5,060	4,682
Deferred revenue	609	640
Accrued income taxes	72	99
Accrued expenses	4,620	5,078
Other liabilities - current	1,004	586
Total current liabilities	16,365	16,085
Long-term debt, less current installments	17,250	19,750
Deferred income tax liabilities - non-current	139	160
Other long term liabilities	5,728	4,980
Total liabilities	39,482	40,975
Commitments and contingencies		
Stockholders' equity:		
Preferred stock, par value \$0.01 per share, 5,000,000 shares authorized	-	-
Common stock, par value \$0.01 per share, 80,000,000 shares authorized; 39,981,918 and 39,384,974 shares issued and 32,236,411 and 31,639,467 shares outstanding, respectively	394	390
Additional paid-in-capital	204,353	202,446
Accumulated deficit	(93,298)	(95,039)
Accumulated other comprehensive loss	(2,555)	(2,644)
Treasury stock at cost, 7,745,507 common shares	(10,668)	(10,668)
Total stockholders' equity	98,226	94,485
Total liabilities and stockholders' equity	<u>\$ 137,708</u>	<u>\$ 135,460</u>

See accompanying notes to unaudited consolidated financial statements.

HARVARD BIOSCIENCE, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE INCOME (LOSS)
(Unaudited, in thousands, except per share data)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2014	2013	2014	2013
Revenues	\$ 26,958	\$ 26,094	\$ 52,851	\$ 52,181
Cost of product revenues (exclusive of items shown separately below)	14,680	14,005	28,812	27,831
Gross profit	<u>12,278</u>	<u>12,089</u>	<u>24,039</u>	<u>24,350</u>
Sales and marketing expenses	4,557	4,393	8,989	8,932
General and administrative expenses	3,997	4,359	8,248	8,581
Research and development expenses	1,284	922	2,257	1,935
Restructuring charges (credits)	115	(24)	252	(45)
Amortization of intangible assets	587	676	1,221	1,355
HART transaction costs	-	1,016	-	1,520
Total operating expenses	<u>10,540</u>	<u>11,342</u>	<u>20,967</u>	<u>22,278</u>
Operating income	<u>1,738</u>	<u>747</u>	<u>3,072</u>	<u>2,072</u>
Other (expense) income:				
Foreign exchange	(67)	(25)	(148)	9
Interest expense	(248)	(245)	(513)	(374)
Interest income	12	10	26	19
Other expense, net	(165)	(69)	(148)	(81)
Other expense, net	<u>(468)</u>	<u>(329)</u>	<u>(783)</u>	<u>(427)</u>
Income from continuing operations before income taxes	1,270	418	2,289	1,645
Income tax expense	248	322	548	620
Income from continuing operations	1,022	96	1,741	1,025
Discontinued operations:				
Loss from discontinued operations, net of tax	-	(282)	-	(1,117)
Net income (loss)	<u>\$ 1,022</u>	<u>\$ (186)</u>	<u>\$ 1,741</u>	<u>\$ (92)</u>
Earnings (loss) per share:				
Basic earnings per common share from continuing operations	\$ 0.03	\$ -	\$ 0.05	\$ 0.03
Discontinued operations	-	(0.01)	-	(0.03)
Basic earnings per common share	<u>\$ 0.03</u>	<u>\$ (0.01)</u>	<u>\$ 0.05</u>	<u>\$ -</u>
Diluted earnings per common share from continuing operations	\$ 0.03	\$ -	\$ 0.05	\$ 0.03
Discontinued operations	-	(0.01)	-	(0.03)
Diluted earnings per common share	<u>\$ 0.03</u>	<u>\$ (0.01)</u>	<u>\$ 0.05</u>	<u>\$ -</u>
Weighted average common shares:				
Basic	<u>32,045</u>	<u>30,103</u>	<u>31,947</u>	<u>29,941</u>
Diluted	<u>32,946</u>	<u>31,695</u>	<u>32,935</u>	<u>31,680</u>
Comprehensive income (loss):				
Net income (loss)	\$ 1,022	\$ (186)	\$ 1,741	\$ (92)
Foreign currency translation adjustments	369	193	584	(1,844)
Derivatives qualifying as hedges, net of tax:				
Loss on derivative instruments designated and qualifying as cash flow hedges	(56)	(53)	(80)	(53)
Amounts reclassified from accumulated other comprehensive loss to net income	34	7	69	7
Unrealized losses on pension benefit obligation, net of tax	(484)	-	(484)	-
Total comprehensive income (loss)	<u>\$ 885</u>	<u>\$ (39)</u>	<u>\$ 1,830</u>	<u>\$ (1,982)</u>

See accompanying notes to unaudited consolidated financial statements.

HARVARD BIOSCIENCE, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited, in thousands)

	Six Months Ended June 30,	
	2014	2013
Cash flows from operating activities:		
Net income (loss)	\$ 1,741	\$ (92)
Adjustments to reconcile net income (loss) to net cash provided by operating activities:		
Stock compensation expense	919	1,237
Depreciation	608	662
Earn-out related to discontinued operations	-	(339)
(Gain) loss on sales of fixed assets	(4)	1
Non-cash restructuring credit	(118)	(44)
Amortization of catalog costs	24	56
(Recovery) provision for allowance for doubtful accounts	(30)	42
Amortization of intangible assets	1,221	1,355
Amortization of deferred financing costs	30	15
Deferred income taxes	119	(1,301)
Changes in operating assets and liabilities:		
(Increase) decrease in accounts receivable	(294)	265
Increase in inventories	(1,312)	(932)
Increase in other receivables and other assets	(864)	(773)
Increase in trade accounts payable	349	287
(Decrease) increase in accrued income taxes	(7)	396
Increase in accrued expenses	51	281
(Decrease) increase in deferred revenue	(36)	267
Increase (decrease) in other liabilities	89	(3)
Net cash provided by operating activities	<u>2,486</u>	<u>1,380</u>
Cash flows used in investing activities:		
Additions to property, plant and equipment	(744)	(585)
Additions to catalog costs	-	(57)
Proceeds from sales of property, plant and equipment	78	3
Net cash used in investing activities	<u>(666)</u>	<u>(639)</u>
Cash flows provided by (used in) financing activities:		
Proceeds from issuance of debt	-	12,049
Repayments of debt	(2,500)	(750)
Net proceeds from issuance of common stock	1,001	1,999
Net cash (used in) provided by financing activities	<u>(1,499)</u>	<u>13,298</u>
Effect of exchange rate changes on cash	342	(622)
Increase in cash and cash equivalents	663	13,417
Cash and cash equivalents at the beginning of period	25,771	20,681
Cash and cash equivalents at the end of period	<u>\$ 26,434</u>	<u>\$ 34,098</u>
Supplemental disclosures of cash flow information:		
Cash paid for interest	\$ 458	\$ 272
Cash paid for income taxes, net of refunds	\$ 688	\$ 1,006

See accompanying notes to unaudited consolidated financial statements.

HARVARD BIOSCIENCE, INC.
Notes to Unaudited Consolidated Financial Statements

1. Basis of Presentation and Summary of Significant Accounting Policies

Basis of Presentation

The unaudited consolidated financial statements of Harvard Bioscience, Inc. and its wholly-owned subsidiaries (collectively, “Harvard Bioscience” or the “Company”) as of June 30, 2014 and for the three and six months ended June 30, 2014 and 2013 have been prepared by the Company pursuant to the rules and regulations of the Securities and Exchange Commission (“SEC”). Certain information and footnote disclosures normally included in financial statements prepared in accordance with U.S. generally accepted accounting principles (“U.S. GAAP”) have been condensed or omitted pursuant to such rules and regulations. The December 31, 2013 consolidated balance sheet was derived from audited financial statements, but does not include all disclosures required by U.S. GAAP. However, the Company believes that the disclosures are adequate to make the information presented not misleading. These unaudited consolidated financial statements should be read in conjunction with the consolidated financial statements and the notes thereto included in the Company’s Annual Report on Form 10-K for the fiscal year ended December 31, 2013, which was filed with the SEC on March 14, 2014.

In the opinion of management, all adjustments, which include normal recurring adjustments necessary to present a fair statement of financial position as of June 30, 2014, results of operations and comprehensive income (loss) for the three and six months ended June 30, 2014 and 2013 and cash flows for the six months ended June 30, 2014 and 2013, as applicable, have been made. The results of operations for the three and six months ended June 30, 2014 are not necessarily indicative of the operating results for the full fiscal year or any future periods.

Summary of Significant Accounting Policies

The accounting policies underlying the accompanying unaudited consolidated financial statements are those set forth in Note 2 to the consolidated financial statements included in the Company’s Annual Report on Form 10-K for the year ended December 31, 2013, which was filed with the SEC on March 14, 2014.

2. Recently Issued Accounting Pronouncements

In May 2014, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) 2014-09, “*Revenue from Contracts with Customers*,” a new accounting standard that provides for a comprehensive model to use in the accounting for revenue arising from contracts with customers that will replace most existing revenue recognition guidance in U.S. GAAP. Under this standard, revenue will be recognized to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the Company expects to be entitled in exchange for those goods or services. This standard will be effective as of the beginning of the Company’s 2017 fiscal year. The Company is assessing the new standard and has not yet determined the impact to the consolidated financial statements.

3. Accumulated Other Comprehensive (Loss) Income

Changes in each component of accumulated other comprehensive (loss) income, net of tax are as follows:

(in thousands)	Foreign currency translation adjustments	Derivatives qualifying as hedges	Defined benefit pension plans	Total
Balance at December 31, 2013	\$ 1,283	\$ (49)	\$ (3,878)	\$ (2,644)
Other comprehensive income (loss) before reclassifications	584	(80)	(484)	20
Amounts reclassified from AOCI	-	69	-	69
Net other comprehensive income	584	(11)	(484)	89
Balance at June 30, 2014	<u>\$ 1,867</u>	<u>\$ (60)</u>	<u>\$ (4,362)</u>	<u>\$ (2,555)</u>

4. Goodwill and Other Intangible Assets

Intangible assets consist of the following:

	June 30, 2014		December 31, 2013		Weighted Average Life	(a)
	(in thousands)					
	Gross	Accumulated Amortization	Gross	Accumulated Amortization		
Amortizable intangible assets:						
Existing technology	\$ 13,581	\$ (11,480)	\$ 13,464	\$ (11,091)	3.9	Years
Trade names	6,141	(2,374)	6,178	(2,185)	10.5	Years
Distribution agreement/customer relationships	21,713	(10,155)	21,827	(9,447)	10.2	Years
Patents	280	(27)	271	(8)	4.7	Years
Total amortizable intangible assets	41,715	\$ (24,036)	41,740	\$ (22,731)		
Indefinite-lived intangible assets:						
Goodwill	36,839		36,605			
Other indefinite-lived intangible assets	1,287		1,289			
Total goodwill and other indefinite-lived intangible assets	38,126		37,894			
Total intangible assets	\$ 79,841		\$ 79,634			

(a) Weighted average life as of June 30, 2014.

The change in the carrying amount of goodwill for the six months ended June 30, 2014 is as follows:

	(in thousands)
Balance at December 31, 2013	\$ 36,605
Effect of change in foreign currencies	234
Balance at June 30, 2014	\$ 36,839

Intangible asset amortization expense was \$0.6 million and \$0.7 million for the three months ended June 30, 2014 and 2013, respectively. Intangible asset amortization expense was \$1.2 million and \$1.4 million for the six months ended June 30, 2014 and 2013, respectively. Amortization expense of existing amortizable intangible assets is currently estimated to be \$2.5 million for the year ending December 31, 2014, \$2.2 million for the year ending December 31, 2015, \$2.1 million for the year ending December 31, 2016, \$1.8 million for the year ending December 31, 2017 and \$1.7 million for the year ending December 31, 2018.

5. Inventories

Inventories consist of the following:

	June 30, 2014	December 31, 2013
(in thousands)		
Finished goods	\$ 8,396	\$ 7,039
Work in process	663	752
Raw materials	8,152	7,986
Total	\$ 17,211	\$ 15,777

6. Property, Plant and Equipment

Property, plant and equipment consist of the following:

	June 30, 2014	December 31, 2013
	(in thousands)	
Land, buildings and leasehold improvements	\$ 2,446	\$ 3,082
Machinery and equipment	9,994	9,471
Computer equipment and software	5,298	4,927
Furniture and fixtures	1,336	1,281
Automobiles	59	59
	<u>19,133</u>	<u>18,820</u>
Less: accumulated depreciation	<u>(15,005)</u>	<u>(14,445)</u>
Property, plant and equipment, net	<u>\$ 4,128</u>	<u>\$ 4,375</u>

7. Restructuring and Other Exit Costs**2013 Restructuring Plan**

During the fourth quarter of 2013, the management of Harvard Bioscience initiated a plan to realign global operations to improve organizational efficiencies and reduce operating expenses throughout the Company. The plan included an approximately 13% reduction in the workforce, as well as the elimination of the position of Chief Operating Officer. During 2013, the Company recorded restructuring charges of approximately \$2.1 million representing severance payments. Additional charges related to this plan are expected to be incurred through the third quarter of 2014, and include, but are not limited to, contract termination costs, as well as moving and employee relocation costs. For the three and six months ended June 30, 2014, the Company recorded net restructuring charges of approximately \$0.1 million and \$0.3 million, respectively, representing severance and other payments. Payments related to this plan are expected to be made through the end of 2014. Activity and liability balances related to these charges were as follows:

	Severance and Related Costs	Other	Total
	(in thousands)		
Restructuring charges - 2013	\$ 2,100	\$ -	\$ 2,100
Cash payments	<u>(666)</u>	<u>-</u>	<u>(666)</u>
Restructuring balance at December 31, 2013	1,434	-	1,434
Restructuring charges	195	175	370
Non-cash reversal of restructuring charges	<u>(115)</u>	<u>-</u>	<u>(115)</u>
Cash payments	<u>(1,184)</u>	<u>(159)</u>	<u>(1,343)</u>
Restructuring balance at June 30, 2014	<u>\$ 330</u>	<u>\$ 16</u>	<u>\$ 346</u>

As part of the 2013 Restructuring Plan, the Company decided to close one of its facilities in the United Kingdom. As of June 30, 2014, the facility met the criteria to be classified as an asset held-for-sale under Accounting Standards Codification (ASC 360), *Property, Plant, and Equipment*. The facility has been included as a current asset, at its net book value at the time it was classified as held-for-sale, in the consolidated balance sheet as it is anticipated the facility will be sold within one year of the balance sheet date.

2012 Restructuring Plan

During 2012, the management of Harvard Bioscience initiated a plan to reduce operating expenses at one of its foreign subsidiaries. The Company recorded restructuring charges of approximately \$0.3 million representing severance payments. No further charges are expected to be incurred on this matter. As of June 30, 2014, the Company had no remaining liability related to this plan on its balance sheet. Activity and liability balances related to these charges were as follows:

	Severance and Related Costs	Other	Total
	(in thousands)		
Restructuring charges	\$ 312	\$ 11	\$ 323
Cash payments	(179)	-	(179)
Restructuring balance at December 31, 2012	133	11	144
Cash payments	(84)	(11)	(95)
Non-cash reversal of restructuring charges	(46)	-	(46)
Restructuring balance at December 31, 2013	3	-	3
Non-cash reversal of restructuring charges	(3)	-	(3)
Restructuring balance at June 30, 2014	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>

Aggregate net restructuring charges relating to the 2013 Restructuring Plan and the 2012 Restructuring Plan were as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2014	2013	2014	2013
	(in thousands)		(in thousands)	
Restructuring charges (credits)	<u>\$ 115</u>	<u>\$ (24)</u>	<u>\$ 252</u>	<u>\$ (45)</u>

8. Discontinued Operations

UBI

In September 2008, the Company completed the sale of assets of its Union Biometrica Division (“UBI”) including its German subsidiary, Union Biometrica GmbH, to UBIO Acquisition Company. During 2013, the Company received earn-out payments, including interest, from UBIO Acquisition Company, of \$1.8 million related to the 2008 acquisition. The Company received its final payment under the earn-out obligation from UBIO Acquisition Company in October 2013.

HART

On November 1, 2013, the spin-off of Harvard Apparatus Regenerative Technology, Inc., or HART, from the Company was completed. Through the spin-off, the historical operations of HART were reported as continuing operations in the consolidated statements of operations of the Company. Following the spin-off, the historical operations of HART have been reclassified and reported as discontinued operations for all periods presented. As a result of the spin-off and related separation, HART became an independent company that operates the regenerative medicine business previously owned by Harvard Bioscience. The spin-off was completed through the distribution to Harvard Bioscience’s stockholders of record all of the shares of common stock of HART (the “Distribution”). In the Distribution, the Company distributed to its stockholders one share of HART common stock for every four shares of Harvard Bioscience common stock outstanding as of the close of business on October 21, 2013, the record date for the Distribution. Fractional shares of HART common stock were not included in the distribution. Instead, Registrar & Transfer Company aggregated fractional shares into whole shares, sold the whole shares in the open market and distributed the aggregate net cash proceeds of the sales pro rata to each holder who otherwise would have been entitled to receive a fractional share in the Distribution.

Effective with the spin-off, the Company contributed \$15.0 million in cash to HART to fund its operations. In addition, the Company transferred approximately \$0.9 million in assets, made up primarily of property, plant and equipment, to HART as part of the spin-off.

In connection with the spin-off of HART, certain required adjustments were made to the Company’s outstanding equity compensation awards under its employee benefit plans. Each outstanding option to purchase Harvard Bioscience common stock was converted on the date of the Distribution into both an adjusted Harvard Bioscience option to purchase Harvard Bioscience common stock and an option to purchase HART common stock. Black-Scholes valuation modeling was used to determine the value that each Harvard Bioscience option had lost at the time of the Distribution and to ensure the holder maintained such lost value, 80% of such lost value was provided back to the holder by making appropriate adjustments to the share amount and exercise price of the existing Harvard Bioscience option and 20% of such lost value was provided back to the holder through the issuance of an option to purchase HART common stock. Similar to the adjustment of the existing Harvard Bioscience options, with respect to each unvested Harvard Bioscience restricted stock unit outstanding at the time of the Distribution, such Harvard Bioscience restricted stock unit was converted on the date of the Distribution into both an adjusted Harvard Bioscience restricted stock unit and a HART restricted stock unit. The market prices of Harvard Bioscience and HART common stock were used to determine the value that each Harvard Bioscience restricted stock unit lost at the time of the Distribution and then to ensure the holder maintained such lost value, 80% of such lost value was provided back to the holder by making the appropriate increases of the share amount of the existing Harvard Bioscience restricted stock unit and 20% of such lost value was provided back to the holder through the issuance of a HART restricted stock unit. The share amounts and exercise prices of the adjusted Harvard Bioscience options and HART options, as well as the share amounts of the adjusted Harvard Bioscience restricted stock units and HART restricted stock units, were each adjusted and set in a manner to ensure the intrinsic value held by the holder pertaining to the existing Harvard Bioscience award was maintained immediately following the Distribution and was determined such that tax was not triggered under Section 409A of the Internal Revenue Code. As part of these required adjustments, the Company issued approximately 1.7 million options and approximately 0.1 million restricted stock units to holders of its outstanding equity compensation awards.

In connection with the spin-off, on October 31, 2013, the Company entered into various commercial agreements with HART which contain many of the key terms, conditions and arrangements related to the Distribution. A description of certain of these agreements can be found in Note 9.

Harvard Bioscience intends for the Distribution and related separation, taken together, to qualify as a reorganization pursuant to which no gain or loss is recognized by Harvard Bioscience or its stockholders for federal income tax purposes under Sections 355, 368(a)(1)(D) and related provisions of the Internal Revenue Code. On June 28, 2013, Harvard Bioscience received a Supplemental Ruling to the Private Letter Ruling dated March 22, 2013 from the IRS to the effect that, among other things, the spin-off will qualify as a transaction that is tax-free for U.S. federal income tax purposes under Section 355 and 368(a)(1)(D) of the Internal Revenue Code continuing in effect. Harvard Bioscience has also received an opinion from its outside tax advisor to such effect. In connection with the ruling and the opinion, Harvard Bioscience made certain representations regarding it and its business. The Company has agreed that it will not take or fail to take any action which prevents or could reasonably be expected to prevent the tax-free status of the spin-off. HART has agreed to certain restrictions that are intended to preserve the tax-free status of the contribution and the Distribution. HART may take certain actions otherwise prohibited by these covenants if Harvard Bioscience receives a private letter ruling from the IRS or if HART obtains, and provides to Harvard Bioscience, an opinion from a U.S. tax counsel or accountant of recognized national standing, in either case, acceptable to Harvard Bioscience in its sole and absolute discretion to the effect that such action would not jeopardize the tax-free status of the contribution and the Distribution. These covenants include restrictions on HART's:

- issuance or sale of stock or other securities (including securities convertible into HART's stock but excluding certain compensatory arrangements);
- sales of assets outside the ordinary course of business; and
- entering into any other corporate transaction which would cause HART to undergo a 50% or greater change in HART's stock ownership.

In addition, current U.S. federal income tax law creates a presumption that the spin-off of HART would be taxable to the Company, but not its stockholders, if such spin-off is part of a "plan or series of related transactions" pursuant to which one or more persons acquire directly or indirectly stock representing a 50% or greater interest (by vote or value) in the Company or HART. Acquisitions that occur during the four-year period that begins two years before the date of the spin-off are presumed to occur pursuant to a plan or series of related transactions, unless it is established that the acquisition is not pursuant to a plan or series of transactions that includes the spin-off. U.S. Treasury regulations currently in effect generally provide that whether an acquisition and a spin-off are part of a plan is determined based on all of the facts and circumstances, including, but not limited to, specific factors described in the U.S. Treasury regulations. In addition, the U.S. Treasury regulations provide several "safe harbors" for acquisitions that are not considered to be part of a plan. These rules will limit the Company's ability during the two-year period following the spin-off to enter into certain transactions that may be advantageous to the Company and its stockholders, particularly issuing equity securities to satisfy financing needs, repurchasing equity securities, disposing of certain assets, engaging in mergers and acquisitions, and, under certain circumstances, acquiring businesses or assets with equity securities or agreeing to be acquired.

The following table sets forth the impact of discontinued operations on the Company's consolidated statements of income for the three and six months ended June 30, 2014 and 2013.

	Three Months Ended June 30,		Six Months Ended June 30,	
	2014	2013	2014	2013
	(in thousands)		(in thousands)	
Gain on disposal of discontinued operations, UBI	\$ -	\$ 139	\$ -	\$ 339
(Loss) from discontinued operations, HART	-	(1,518)	-	(3,001)
Income tax (benefit)	-	(1,097)	-	(1,545)
(Loss) from discontinued operations, net of tax	<u>\$ -</u>	<u>\$ (282)</u>	<u>\$ -</u>	<u>\$ (1,117)</u>

9. Related Party Transactions

In connection with the HART spin-off, the Company entered into various commercial agreements with HART. These agreements include: (i) a Separation and Distribution Agreement to effect the separation and spin-off distribution and provide other agreements to govern the Company's relationship with HART after the spin-off; (ii) an Intellectual Property Matters Agreement, which governs various intellectual property related arrangements between the Company and HART, including the separation of intellectual property rights between the Company and HART, as well as certain related cross-licenses between the two companies; (iii) a Product Distribution Agreement, which provides that each company will become the exclusive distributor for the other party for products such other party develops for sale in the markets served by the other; (iv) a Tax Sharing Agreement, which governs the Company's and HART's respective rights, responsibilities and obligations with respect to tax liabilities and benefits, tax attributes, the preparation and filing of tax returns, the control of audits and other tax proceedings and other matters regarding taxes for periods before, during and after the spin-off; and (v) a Transition Services Agreement, which provides for certain services to be performed on a transitional basis by the Company to facilitate HART's transition into a separate public reporting company. As part of the Transition Services Agreement, and for one year following the spin-off date, the Company will provide certain support services to HART, including, among others, accounting, payroll, human resources and information technology services, with the charges for the transition services generally intended to allow the Company to fully recover the costs directly associated with providing the services, plus all out-of-pocket costs and expenses.

The Company recorded revenues of approximately \$31,000 and \$109,000 for the three and six months ended June 30, 2014, respectively, as a result of the exclusive distribution rights pursuant to the Product Distribution Agreement. The Company's operating expenses were reduced by \$41,000 and \$101,000 for the three and six months ended June 30, 2014, respectively, as a result of the fees the Company charged to HART for services provided pursuant to the Transition Services Agreement. In addition, the Company's rent expense was reduced by \$41,000 and \$81,000 for the three and six months ended June 30, 2014, respectively, as a result of sublease rent charged to HART pursuant to a sublease between the two companies.

David Green, who is currently a Director of the Company and was also formerly the Company's President and interim CEO, is currently the Chairman and CEO of HART.

10. Warranties

Warranties are estimated and accrued at the time revenues are recorded. A rollforward of product warranties is as follows:

	<u>Beginning Balance</u>	<u>Payments</u>	<u>Additions</u>	<u>Ending Balance</u>
	(in thousands)			
Year ended December 31, 2013	\$ 222	(179)	262	\$ 305
Six Months Ended June 30, 2014	\$ 305	(51)	24	\$ 278

11. Employee Benefit Plans

Certain of the Company's subsidiaries in the United Kingdom, or UK, Harvard Apparatus Limited and Biochrom Limited, maintain contributory, defined benefit or defined contribution pension plans for substantially all of their employees. As of June 30, 2014, these defined benefit pension plans were closed to new employees, as well as closed to the future accrual of benefits for existing employees. The components of the Company's defined benefit pension expense were as follows:

	<u>Three Months Ended June 30,</u>		<u>Six Months Ended June 30,</u>	
	<u>2014</u>	<u>2013</u>	<u>2014</u>	<u>2013</u>
	(in thousands)			
Components of net periodic benefit cost:				
Service cost	\$ (8)	\$ 77	\$ -	\$ 151
Interest cost	227	190	448	374
Expected return on plan assets	(167)	(125)	(330)	(246)
Net amortization loss	46	59	91	116
Net periodic benefit cost	<u>\$ 98</u>	<u>\$ 201</u>	<u>\$ 209</u>	<u>\$ 395</u>

For the three and six months ended June 30, 2014, the Company contributed \$0.2 million and \$0.4 million, respectively, to its defined benefit pension plans. For the three and six months ended June 30, 2013, the Company contributed \$0.2 million and \$0.5 million, respectively, to its defined benefit pension plans. The Company expects to contribute approximately \$0.4 million to its defined benefit pension plans during the remainder of 2014.

During the three months ended June 30, 2014 the Company wrote down its Level 3 investment in a longevity fund by an additional \$0.6 million, which reduced its value to \$0. The impact on accumulated other comprehensive loss was \$0.5 million, net of tax. The longevity fund invests in a portfolio of physical life insurance settlements that had been historically valued using the net asset values provided by the fund. Since June 2011, the fund has been closed to all activity. The write down during three months ended June 30, 2014 was due, in part, to communication from the longevity fund regarding its continued illiquidity and inactivity.

As of June 30, 2014 and December 31, 2013, the Company had an underfunded pension liability of approximately \$5.6 million and \$4.9 million, respectively, included in the other liabilities – non-current line item in the consolidated balance sheets.

12. Leases

Rent expense was \$0.4 million and \$0.8 million for the three and six months ended June 30, 2014, respectively. Rent expense was \$0.3 million and \$0.6 million for the three and six months ended June 30, 2013, respectively.

During the three months ended June 30, 2014, the Company entered into Amendment No. 3 (the “Third Amendment”) amending the terms of the lease on the Company’s corporate headquarters in Holliston, MA. The Third Amendment extended the term of the lease through August 31, 2024, while also expanding the Company’s rentable square feet in the building by approximately 22,000 square feet to a total of approximately 83,000 square feet. The commencement date of the Third Amendment is approximately September 1, 2014.

Future minimum lease payments for operating leases, with initial or remaining terms in excess of one year at June 30, 2014, are as follows:

	Operating Leases
	(in thousands)
2015	\$ 1,824
2016	1,305
2017	1,322
2018	1,304
2019	1,182
Thereafter	4,973
Net minimum lease payments	<u>\$ 11,910</u>

13. Capital Stock

Common Stock

On February 5, 2008, the Company’s Board of Directors adopted a Shareholder Rights Plan and declared a dividend distribution of one preferred stock purchase right for each outstanding share of the Company’s common stock to shareholders of record as of the close of business on February 6, 2008. Initially, these rights will not be exercisable and will trade with the shares of the Company’s common stock. Under the Shareholder Rights Plan, the rights generally will become exercisable if a person becomes an “acquiring person” by acquiring 20% or more of the common stock of the Company or if a person commences a tender offer that could result in that person owning 20% or more of the common stock of the Company. If a person becomes an acquiring person, each holder of a right (other than the acquiring person) would be entitled to purchase, at the then-current exercise price, such number of shares of preferred stock which are equivalent to shares of the Company’s common stock having a value of twice the exercise price of the right. If the Company is acquired in a merger or other business combination transaction after any such event, each holder of a right would then be entitled to purchase, at the then-current exercise price, shares of the acquiring company’s common stock having a value of twice the exercise price of the right.

Preferred Stock

The Company's Board of Directors has the authority to issue up to 5.0 million shares of preferred stock and to determine the price privileges and other terms of the shares. The Board of Directors may exercise this authority without any further approval of stockholders. As of June 30, 2014, the Company had no preferred stock issued or outstanding.

Employee Stock Purchase Plan (as amended, the "ESPP")

In 2000, the Company approved the ESPP. Under this ESPP, participating employees can authorize the Company to withhold a portion of their base pay during consecutive six-month payment periods for the purchase of shares of the Company's common stock. At the conclusion of the period, participating employees can purchase shares of the Company's common stock at 85% of the lower of the fair market value of the Company's common stock at the beginning or end of the period. Shares are issued under the ESPP for the six-month periods ending June 30 and December 31. Under this plan, 750,000 shares of common stock are authorized for issuance of which 558,456 shares were issued as of June 30, 2014. During the three months ended June 30, 2014, the Company issued 31,116 shares of the Company's common stock under the ESPP. During the three months ended June 30, 2013, the Company issued 27,305 shares of the Company's common stock under the ESPP.

Stock-Based Payment Awards

The Company accounts for stock-based payment awards in accordance with the provisions of ASC 718, *Compensation – Stock Compensation*, which requires that compensation expense is recognized for all stock-based payment awards made to employees and directors including stock options, restricted stock units and employee stock purchases related to the ESPP.

Stock option and restricted stock unit activity under the Company's Third Amended and Restated 2000 Stock Option and Incentive Plan (as amended, the "2000 Plan") for the six months ended June 30, 2014 was as follows:

	<u>Stock Options</u>		<u>Restricted Stock Units</u>	
	<u>Stock Options Outstanding</u>	<u>Average Weighted Exercise Price</u>	<u>Restricted Stock Units Outstanding</u>	<u>Grant Date Fair Value</u>
Balance at December 31, 2013	6,690,845	\$ 3.42	463,973	\$ 4.32
Granted	974,500	4.13	116,400	4.12
Exercised	(395,060)	3.13	-	-
Vested (RSUs)	-	-	(233,098)	-
Cancelled / forfeited	(759,652)	4.78	(40,878)	4.36
Balance at June 30, 2014	<u>6,510,633</u>	\$ 3.38	<u>306,397</u>	\$ 4.30

The weighted average fair value of the options granted under the 2000 Plan during the three months ended June 30, 2014 and 2013 was \$2.20 and \$2.64, respectively, using the Black Scholes option-pricing model. The weighted average fair value of the options granted under the 2000 Plan during the six months ended June 30, 2014 and 2013 was \$2.19 and \$2.64, respectively. The following assumptions were used to estimate the fair value of stock options granted during the three and six months ended June 30, 2014 and 2013:

	<u>Three Months Ended June 30,</u>		<u>Six Months Ended June 30,</u>	
	<u>2014</u>	<u>2013</u>	<u>2014</u>	<u>2013</u>
Volatility	57.16%	57.20%	56.83%	57.20%
Risk-free interest rate	1.80%	1.18%	1.78%	1.18%
Expected holding period (in years)	5.79	5.64	5.75	5.64
Dividend Yield	-%	-%	-%	-%

The Company used historical volatility to calculate the expected volatility as of June 30, 2014. Historical volatility was determined by calculating the mean reversion of the daily adjusted closing stock price. The risk-free interest rate assumption is based upon observed U.S. Treasury bill interest rates (risk-free) appropriate for the term of the Company's stock options. The expected holding period of stock options represents the period of time options are expected to be outstanding and is based on historical experience. The vesting period ranges from one to four years and the contractual life is ten years.

Stock-based compensation expense related to stock options, restricted stock units and the ESPP for the three and six months ended June 30, 2014 and 2013 was allocated as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2014	2013	2014	2013
	(in thousands)			
Cost of product revenues	\$ 30	\$ 40	\$ 58	\$ 52
Sales and marketing	74	42	144	83
General and administrative	356	477	697	1,053
Research and development	12	10	20	17
Discontinued operations	-	19	-	32
Total stock-based compensation	\$ 472	\$ 588	\$ 919	\$ 1,237

The Company did not capitalize any stock-based compensation.

Earnings per share

Basic earnings per share is based upon net income divided by the number of weighted average common shares outstanding during the period. The calculation of diluted earnings per share assumes conversion of stock options and restricted stock units into common stock using the treasury method. The weighted average number of shares used to compute basic and diluted earnings per share consists of the following:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2014	2013	2014	2013
Basic	32,045,314	30,102,691	31,946,654	29,941,294
Effect of assumed conversion of employee and director stock options and restricted stock units	900,618	1,592,547	988,801	1,738,970
Diluted	32,945,932	31,695,238	32,935,455	31,680,264

Excluded from the shares used in calculating the diluted earnings per common share in the above table are options to purchase approximately 2,477,884 and 2,724,220 shares of common stock for the three months ended June 30, 2014 and 2013, respectively, as the impact of these shares would be anti-dilutive. Excluded from the shares used in calculating the diluted earnings per common share in the above table are options to purchase approximately 2,578,743 and 2,464,906 shares of common stock for the six months ended June 30, 2014 and 2013, respectively, as the impact of these shares would be anti-dilutive.

14. Long Term Debt

On August 7, 2009, the Company entered into an amended and restated \$20.0 million revolving credit loan agreement with Bank of America, as agent, and Bank of America and Brown Brothers Harriman & Co as lenders (the "2009 Credit Agreement"). On September 30, 2011, the Company entered into the First Amendment to the Amended and Restated Revolving Credit Loan Agreement (the "First Amendment") with Bank of America as agent, and Bank of America and Brown Brothers Harriman & Co as lenders. The First Amendment extended the maturity date of the credit facility to August 7, 2013 and reduced the interest rate to the London Interbank Offered Rate plus 3.0%. On October 4, 2012, the Company entered into the Second Amendment to the Amended and Restated Revolving Credit Loan Agreement (the "Second Amendment") with Bank of America as agent, and Bank of America and Brown Brothers Harriman & Co as lenders. The Second Amendment extended the maturity date of the credit facility to August 7, 2014.

On March 29, 2013, the Company entered into a Second Amended and Restated Revolving Credit Agreement (the "Credit Agreement") with Bank of America, as agent, and Bank of America and Brown Brothers Harriman & Co as lenders, that amended and restated the 2009 Credit Agreement. The Credit Agreement converted the Company's existing outstanding revolving advances into a term loan in the principal amount of \$15.0 million (the "Term Loan"), provides a revolving credit facility in the maximum principal amount of \$25.0 million ("Revolving Line") and provides a delayed draw term loan of up to \$15.0 million (the "DDTL") to fund capital contributions to the Company's former subsidiary, HART. The maximum amount available under the Credit Agreement is \$50.0 million as borrowings against the DDTL in excess of \$10.0 million results in a dollar for dollar reduction in the Revolving Line capacity. The Revolving Line has a maturity date of March 29, 2016, while the Term Loan and DDTL have a maturity date of March 29, 2018.

On October 31, 2013, the Company amended the Credit Agreement to reduce the DDTL from up to \$15.0 million to up to \$10.0 million and allow for an additional \$5.0 million to be available for drawing as advances under the Revolving Line.

Borrowings under the Term Loan and the DDTL shall bear interest at a rate based on either the effective London Interbank Offered Rate (LIBOR) for certain interest periods selected by the Company, or a daily floating rate based on the British Bankers' Association (BBA) LIBOR as published by Reuters (or other commercially available source providing quotations of BBA LIBOR), plus in either case, a margin of 3.0%. The Revolving Line shall bear interest at a rate based on either the effective LIBOR for certain interest periods selected by the Company, or a daily floating rate based on the BBA LIBOR, plus in either case, a margin of 2.5%. The Company was required to fix the rate of interest on at least 50% of the Term Loan and the DDTL through the purchase of interest rate swaps. The Term Loan and DDTL each have interest payments due at the end of the applicable LIBOR period, or monthly with respect to BBA LIBOR borrowings, and principal payments due quarterly. The Revolving Line has interest payments due at the end of the applicable LIBOR period, or monthly with respect to BBA LIBOR borrowings.

The loans evidenced by the Credit Agreement, or the Loans, are guaranteed by all of the Company's direct and indirect domestic subsidiaries, and secured by substantially all of the assets of the Company and the guarantors. The Loans are subject to restrictive covenants under the Credit Agreement, and financial covenants that require the Company and its subsidiaries to maintain certain financial ratios on a consolidated basis, including a maximum leverage, minimum fixed charge coverage and minimum working capital. Prepayment of the Loans is allowed by the Credit Agreement at any time during the terms of the Loans. The Loans also contain limitations on the Company's ability to incur additional indebtedness and requires lender approval for acquisitions funded with cash, promissory notes and/or other consideration in excess of \$6.0 million and for acquisitions funded solely with equity in excess of \$10.0 million.

As of June 30, 2014 and December 31, 2013, the Company had borrowings of \$22.3 million and \$24.8 million, respectively, outstanding under its Credit Agreement. As of June 30, 2014, the Company was in compliance with all financial covenants contained in the Credit Agreement, was subject to a working capital borrowing restriction and had available borrowing capacity under its Credit Agreement of \$21.6 million.

As of June 30, 2014, the weighted effective interest rates on the Company's Term Loan, DDTL and Revolving Line borrowings were 3.96%, 3.54% and 3.15%, respectively.

As of June 30, 2014 and December 31, 2013, the Company's borrowings were comprised of:

	<u>June 30,</u> <u>2014</u>	<u>December 31,</u> <u>2013</u>
	(in thousands)	
Long-term debt:		
Term loan	\$ 11,250	\$ 12,750
DDTL	8,500	9,500
Revolving line	2,500	2,500
Total debt	22,250	24,750
Less: current installments	(5,000)	(5,000)
Long-term debt	<u>\$ 17,250</u>	<u>\$ 19,750</u>

15. Derivatives

The Company uses interest-rate-related derivative instruments to manage its exposure related to changes in interest rates on its variable-rate debt instruments. The Company does not enter into derivative instruments for any purpose other than cash flow hedging. The Company does not speculate using derivative instruments.

By using derivative financial instruments to hedge exposures to changes in interest rates, the Company exposes itself to credit risk and market risk. Credit risk is the failure of the counterparty to perform under the terms of the derivative contract. When the fair value of a derivative contract is positive, the counterparty owes the Company, which creates credit risk for the Company. When the fair value of a derivative contract is negative, the Company owes the counterparty and, therefore, the Company is not exposed to the counterparty's credit risk in those circumstances. The Company minimizes counterparty credit risk in derivative instruments by entering into transactions with carefully selected major financial institutions based upon their credit profile.

Market risk is the adverse effect on the value of a derivative instrument that results from a change in interest rates. The market risk associated with interest-rate contracts is managed by establishing and monitoring parameters that limit the types and degree of market risk that may be undertaken.

The Company assesses interest rate risk by continually identifying and monitoring changes in interest rate exposures that may adversely impact expected future cash flows and by evaluating hedging opportunities. The Company maintains risk management control systems to monitor interest rate risk attributable to both the Company's outstanding or forecasted debt obligations as well as the Company's offsetting hedge positions. The risk management control systems involve the use of analytical techniques, including cash flow sensitivity analysis, to estimate the expected impact of changes in interest rates on the Company's future cash flows.

The Company uses variable-rate London Interbank Offered Rate (LIBOR) debt to finance its operations. The debt obligations expose the Company to variability in interest payments due to changes in interest rates. Management believes that it is prudent to limit the variability of a portion of its interest payments. To meet this objective, management enters into LIBOR based interest rate swap agreements to manage fluctuations in cash flows resulting from changes in the benchmark interest rate of LIBOR. These swaps change the variable-rate cash flow exposure on the debt obligations to fixed cash flows. Under the terms of the interest rate swaps, the Company receives LIBOR based variable interest rate payments and makes fixed interest rate payments, thereby creating the equivalent of fixed-rate debt for the notional amount of its debt hedged. In accordance with its Credit Agreement, the Company was required to fix the rate of interest on at least 50% of its Term Loan and the DDTL through the purchase of interest rate swaps. On June 5, 2013, the Company entered into an interest rate swap contract with an original notional amount of \$15.0 million and a maturity date of March 29, 2018 in order to hedge the risk of changes in the effective benchmark interest rate (LIBOR) associated with the Company's Term Loan. On November 29, 2013, the Company entered into a second interest rate swap contract with an original notional amount of \$5.0 million and a maturity date of March 29, 2018 in order to hedge the risk of changes in the effective benchmark interest rate (LIBOR) associated with the DDTL. The Term Loan swap contract converted specific variable-rate debt into fixed-rate debt and fixed the LIBOR rate associated with the Term Loan at 0.96% plus a bank margin of 3.0%. The DDTL swap contract converted specific variable-rate debt into fixed-rate debt and fixed the LIBOR rate associated with the Term Loan at 0.93% plus a bank margin of 3.0%. The interest rate swaps were designated as cash flow hedges in accordance with ASC 815, *Derivatives and Hedging*.

The following table presents the notional amount and fair value of the Company's derivative instruments as of June 30, 2014 and December 31, 2013.

	Balance sheet classification	June 30, 2014	June 30, 2014
		Notional Amount	Fair Value (a)
		(in thousands)	
Derivatives designated as hedging instruments under ASC 815			
Interest rate swap	Other liabilities-non current	\$ 15,500	\$ (60)

	Balance sheet classification	December 31, 2013	December 31, 2013
		Notional Amount	Fair Value (a)
		(in thousands)	
Derivatives designated as hedging instruments under ASC 815			
Interest rate swap	Other liabilities-non current	\$ 17,500	\$ (49)

(a) See note 16 for the fair value measurements related to these financial instruments.

All of the Company's derivative instruments are designated as hedging instruments.

The Company has structured its interest rate swap agreements to be 100% effective and as a result, there was no impact to earnings resulting from hedge ineffectiveness. Changes in the fair value of interest rate swaps designated as hedging instruments that effectively offset the variability of cash flows associated with variable-rate, long-term debt obligations are reported in accumulated other comprehensive income ("AOCI"). These amounts subsequently are reclassified into interest expense as a yield adjustment of the hedged interest payments in the same period in which the related interest affects earnings. The Company's interest rate swap agreement was deemed to be fully effective in accordance with ASC 815, and, as such, unrealized gains and losses related to these derivatives were recorded as AOCI.

The following table summarizes the effect of derivatives designated as cash flow hedging instruments and their classification within comprehensive income for the three and six months ended June 30, 2014 and 2013:

Derivatives in Hedging Relationships	Amount of gain or (loss) recognized in OCI on derivative (effective portion)			
	Three months ended June 30,		Six months ended June 30,	
	2014	2013	2014	2013
	(in thousands)			
Interest rate swap	\$ (56)	\$ (53)	\$ (80)	\$ (53)

The following table summarizes the reclassifications out of accumulated other comprehensive income (loss) for the three and six months ended June 30, 2014 and 2013:

Details about AOCI Components	Amount of gain or (loss) reclassified from AOCI into income (effective portion)				Location of gain or (loss) reclassified from AOCI into income (effective portion)
	Three months ended June 30,		Six months ended June 30,		
	2014	2013	2014	2013	
	(in thousands)				
Interest rate swap	\$ (34)	\$ (7)	\$ (69)	\$ (7)	Interest expense

As of June 30, 2014, \$0.1 million of deferred losses on derivative instruments accumulated in AOCI are expected to be reclassified to earnings during the next twelve months. Transactions and events expected to occur over the next twelve months that will necessitate reclassifying these derivatives' losses to earnings include the repricing of variable-rate debt. There were no cash flow hedges discontinued during 2014 or 2013.

16. Fair Value Measurements

Fair value measurement is defined as the price that would be received to sell an asset or paid to transfer a liability in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants at the measurement date. A fair value hierarchy is established, which prioritizes the inputs used in measuring fair value into three broad levels as follows:

Level 1—Quoted prices in active markets for identical assets or liabilities.

Level 2—Inputs, other than the quoted prices in active markets, that are observable either directly or indirectly.

Level 3—Unobservable inputs based on the Company's own assumptions.

The following tables present the fair value hierarchy for those liabilities measured at fair value on a recurring basis:

(In thousands)	Fair Value as of June 30, 2014			
	Level 1	Level 2	Level 3	Total
Liabilities:				
Interest rate swap agreements	\$ -	\$ 60	\$ -	\$ 60

(In thousands)	Fair Value as of December 31, 2013			
	Level 1	Level 2	Level 3	Total
Liabilities:				
Interest rate swap agreements	\$ -	\$ 49	\$ -	\$ 49

The Company uses the market approach technique to value its financial liabilities. The Company's financial liabilities carried at fair value include derivative instruments used to hedge the Company's interest rate risks. The fair value of the Company's interest rate swap agreements was based on LIBOR yield curves at the reporting date.

17. Income Tax

The effective income tax rate for continuing operations was 19.5% and 77.0% for the three months ended June 30, 2014 and 2013, respectively. The difference between the effective tax rate quarter over quarter was primarily attributable to higher research and development tax credits in 2013 versus 2014 due, in part, to the expiration of the U.S. research credit at the end of 2013, offset by discrete expense items related to certain non-deductible costs in 2013.

The effective income tax rate for continuing operations was 23.9% and 37.7% for the six months ended June 30, 2014 and 2013, respectively. The difference between the effective tax rate year over year was primarily attributable to higher research and development tax credits in 2013 versus 2014 due, in part, to the expiration of the U.S. research credit at the end of 2013, offset by discrete expense items related to certain non-deductible costs in 2013.

18. Subsequent Events

On July 30, 2014, the Company entered into amendments to its Employment Agreements with Jeffrey A. Duchemin, its Chief Executive Officer, and Robert E. Gagnon, its Chief Financial Officer (the "Amendments"). The Amendments extended the term of each Employment Agreement through August 26, 2016 and increased the renewal periods from one to two years under each agreement.

As part of Mr. Duchemin's Amendment, the vesting terms of his option grants were modified such that upon termination of his Employment Agreement by the Company without cause or by Mr. Duchemin with good reason, all options that would vest within twelve months, and twenty four months with respect to his inducement grant, following the termination date will accelerate and become fully vested. This modification of the vesting terms has no financial impact on the Company's reported financial position or operations.

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

Forward-Looking Statements

This Quarterly Report on Form 10-Q contains statements that are not statements of historical fact and are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934 (the "Exchange Act"). The forward-looking statements are principally, but not exclusively, contained in "Item 2: Management's Discussion and Analysis of Financial Condition and Results of Operations." These statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Forward-looking statements include, but are not limited to, statements about management's confidence or expectations, and our plans, objectives, expectations and intentions that are not historical facts. In some cases, you can identify forward-looking statements by terms such as "may," "will," "should," "could," "would," "seek," "expects," "plans," "aim," "anticipates," "believes," "estimates," "projects," "predicts," "intends," "think," "potential," "objectives," "optimistic," "strategy," "goals," "sees," "new," "guidance," "future," "continue," "drive," "growth," "long-term," "projects," "develop," "possible," "emerging," "opportunity," "pursue" and similar expressions intended to identify forward-looking statements. These statements reflect our current views with respect to future events and are based on assumptions and subject to risks and uncertainties. Given these uncertainties, you should not place undue reliance on these forward-looking statements. Factors that may cause our actual results to differ materially from those in the forward-looking statements include sustained uncertainty concerning government spending; economic and political conditions generally and those affecting pharmaceutical and biotechnology industries; economic, political and other risks associated with international revenues and operations; the seasonal nature of purchasing in Europe; currency exchange rate fluctuations; failure of any banking institution in which we deposit our funds or its failure to provide services; our substantial debt and our ability to meet the financial covenants contained in our credit facility; our failure to raise or generate capital necessary to implement our acquisition and expansion strategy; the failure of our spin-off of Harvard Apparatus Regenerative Technology, Inc., or HART, to qualify as a transaction that is generally tax-free for U.S. federal income tax purposes; the failure of HART to indemnify us for any liabilities associated with HART's business; unanticipated costs relating to acquisitions, unanticipated costs arising in connection with our consolidation of business functions and any restructuring initiatives; our failure to expand in Asia and other emerging markets; our inability to manage our growth; competition from our competitors; our failure to expand our product offerings, introduce new products or commercialize new technologies; technological changes resulting in our products becoming obsolete; our failure to identify potential acquisition candidates and successfully close such acquisitions with favorable pricing or integrate acquired businesses or technologies; impact of any impairment of our goodwill or intangible assets; our ability to retain key personnel; failure or inadequacy of our information technology structure; rising commodity and precious metals costs; our ability to protect our intellectual property and operate without infringing on others' intellectual property; exposure to product and other liability claims; plus other factors described under the heading "Item 1A. Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2013 and our Quarterly Report on Form 10-Q for the quarter ended March 31, 2014, or described in our other public filings. Our results may also be affected by factors of which we are not currently aware. We may not update these forward-looking statements, even though our situation may change in the future, unless we have obligations under the federal securities laws to update and disclose material developments related to previously disclosed information.

Overview

Since 2009, our operations included two main businesses, the Life Science Research Tools business (“LSRT”) and the Regenerative Medicine Device business (“RMD”). In December of 2012, we made the decision to divest our RMD business which we believed was the best path to maximizing value for our shareholders. On November 1, 2013, we completed the divestiture of the RMD business through the spin-off of HART to our shareholders, and the new company is now trading as a separate public reporting company on the NASDAQ stock market under the trading symbol HART. As a result, on November 1, 2013, we began reporting our RMD business segment as a discontinued operation for all historical periods presented.

In connection with the spin-off of HART, certain required adjustments were made to our outstanding equity compensation awards under our employee benefit plans. Each outstanding option to purchase Harvard Bioscience common stock was converted into both an adjusted Harvard Bioscience option to purchase Harvard Bioscience common stock and an option to purchase HART common stock. The share amounts and exercise prices of the adjusted Harvard Bioscience options and HART options, as well as the share amounts of the adjusted Harvard Bioscience restricted stock units and HART restricted stock units, were each adjusted and set in a manner to ensure the intrinsic value held by the holder pertaining to the existing Harvard Bioscience award was maintained immediately following the spin-off and was determined such that tax is not triggered under Section 409A of the Internal Revenue Code. As part of these required adjustments, we issued approximately 1.7 million options and approximately 0.1 million restricted stock units to holders of our outstanding equity compensation awards.

Following the spin-off of HART, our former RMD segment, we have one reportable segment. As such, segment results and consolidated results are the same. The costs we incurred to separate and spin-off HART are included in our continuing operations and have been classified and reported as HART transaction costs, within operating expenses, on our consolidated statements of income.

After the HART spin-off, our business has been aligned to focus on the growth of our LSRT business. Our goal is to be a world leading life science company that excels in meeting the needs of our customers by providing a wide breadth of innovative products and solutions. Our business strategy is to have a broad range of highly specialized products that have strong positions in targeted market segments within the life science industry. We believe that:

- having a broad product offering reduces the risk of being dependent on a single technology;
- having relatively inexpensive products reduces the volatility associated with expensive capital equipment; and
- providing strong technical and application service helps customers solve their problems and provides additional value to the customer.

Our growth strategy includes global expansion of sales and marketing and distribution channels, internal new product development building on our well-established brands, and acquisitions. We plan to use acquisitions to expand our product offerings because we believe we can use our well-established brands and distribution channels to accelerate the growth of these acquired products. We also believe that our expertise in operational management frequently allows us to improve profitability of acquired companies.

During the fourth quarter of 2013 we restructured our global operations to increase efficiency and better position us for growth. The restructuring is expected to result in overall net annual savings of approximately \$2.0 million on a pre-tax basis beginning in 2014. With a reduction of approximately \$3.0 million in personnel related costs and expenditures, approximately \$1.0 million is being reinvested in the Company primarily in expanding in China and other emerging markets, hiring for key functional roles and reinvigorating product development.

Subsequent Events

On July 30, 2014, we entered into amendments to our Employment Agreements with Jeffrey A. Duchemin, our Chief Executive Officer, and Robert E. Gagnon, our Chief Financial Officer (the “Amendments”). The Amendments extended the term of each Employment Agreement through August 26, 2016 and increased the renewal periods from one to two years under each agreement.

As part of Mr. Duchemin’s Amendment, the vesting terms of his option grants were modified such that upon termination of his Employment Agreement by the Company without cause or by Mr. Duchemin with good reason, all options that would vest within twelve months, and twenty four months with respect to his inducement grant, following the termination date will accelerate and become fully vested. This modification of the vesting terms has no financial impact on our reported financial position or operations.

Components of Operating Income

Revenues. We generate revenues by selling apparatus, instruments, devices and consumables through our catalogs, our distributors, our direct sales force and our websites. Our websites and catalogs serve as the primary sales tools for our Physiology and Fluidics related product lines. These product lines include both proprietary manufactured products and complementary products from various suppliers. Our reputation as a leading producer in many of our manufactured products creates traffic to our website, enables cross-selling and facilitates the introduction of new products. We have field sales teams in the U.S., Canada, the United Kingdom, Germany, France and Spain. In those regions where we do not have a direct sales team, we use distributors. Revenues from direct sales to end users represented approximately 60% of our revenues for the three months ended June 30, 2014 and 2013. For the six months ended June 30, 2014 and 2013, revenues from direct sales to end users represented approximately 59% and 58% of our revenues, respectively.

Products in our Molecular and Cell analysis product lines are generally sold by distributors, and are typically priced in the range of \$5,000-\$15,000. They are mainly scientific instruments like spectrophotometers and plate readers that analyze light to detect and quantify a wide range of molecular and cellular processes, or apparatus like gel electrophoresis units. We also use distributors for both our catalog products and our higher priced products, for sales in locations where we do not have subsidiaries or where we have existing distributors in place from acquired businesses. For the three months ended June 30, 2014 and 2013, approximately 40% of our revenues were derived from sales to distributors. For the six months ended June 30, 2014 and 2013, approximately 41% and 42% of our revenues, respectively, were derived from sales to distributors.

For the three and six months ended June 30, 2014, approximately 63% and 64% of our revenues, respectively, were derived from products we manufacture, approximately 11%, for both periods, were derived from complementary products we distribute in order to provide the researcher with a single source for all equipment needed to conduct a particular experiment, and approximately 26% and 25%, respectively, were derived from distributed products sold under our brand names. For the three and six months ended June 30, 2013, approximately 64% and 65% of our revenues, respectively, were derived from products we manufacture, approximately 10% and 9%, respectively, were derived from complementary products we distribute in order to provide the researcher with a single source for all equipment needed to conduct a particular experiment, and approximately 26%, for both periods, were derived from distributed products sold under our brand names.

For the three months ended June 30, 2014 and 2013, approximately 39% and 38% of our revenues, respectively, were derived from sales made by our non-U.S. operations. For the six months ended June 30, 2014 and 2013, approximately 41% and 39% of our revenues, respectively, were derived from sales made by our non-U.S. operations.

Cost of product revenues. Cost of product revenues includes material, labor and manufacturing overhead costs, obsolescence charges, packaging costs, warranty costs, shipping costs and royalties. Our cost of product revenues may vary over time based on the mix of products sold. We sell products that we manufacture and products that we purchase from third parties. The products that we purchase from third parties have a higher cost of product revenues as a percent of revenues because the profit is effectively shared with the original manufacturer. We anticipate that our manufactured products will continue to have a lower cost of product revenues as a percentage of revenues as compared with the cost of non-manufactured products for the foreseeable future. Additionally, our cost of product revenues as a percent of product revenues will vary based on mix of direct to end user sales and distributor sales, mix by product line and mix by geography.

Sales and marketing expenses. Sales and marketing expense consists primarily of salaries and related expenses for personnel in sales, marketing and customer support functions. We also incur costs for travel, trade shows, demonstration equipment, public relations and marketing materials, consisting primarily of the printing and distribution of our catalogs, supplements and the maintenance of our websites. We may from time to time expand our marketing efforts by employing additional technical marketing specialists in an effort to increase sales of selected categories of products. We may also from time to time expand our direct sales organizations in an effort to concentrate on key accounts or promote certain product lines.

General and administrative expenses. General and administrative expense consists primarily of salaries and other related costs for personnel in executive, finance, accounting, information technology and human resource functions. Other costs include professional fees for legal and accounting services, facility costs, investor relations, insurance and provision for doubtful accounts.

Research and development expenses. Research and development expense consists primarily of salaries and related expenses for personnel and spending to develop and enhance our products. Other research and development expense includes fees for consultants and outside service providers, and material costs for prototype and test units. We expense research and development costs as incurred. We believe that investment in product development is a competitive necessity and plan to continue to make these investments in order to realize the potential of new technologies that we develop, license or acquire for existing markets.

Restructuring charges. Restructuring charges consist of severance, other personnel-related charges and exit costs related to plans to create organizational efficiencies and reduce operating expenses.

HART transaction costs. HART transaction costs consist of legal, accounting and other professional fees incurred to facilitate the separation and spin-off of HART. The costs have been included as a component of operating expenses on our consolidated statements of income.

Stock-based compensation expenses. Stock-based compensation expense for the three months ended June 30, 2014 and 2013 was \$0.5 million and \$0.6 million, respectively. Stock-based compensation expense for the six months ended June 30, 2014 and 2013 was \$0.9 million and \$1.2 million, respectively. Stock-based compensation expense related to stock options, restricted stock units, and the ESPP and was recorded as a component of cost of product revenues, sales and marketing expenses, general and administrative expenses, research and development expenses and discontinued operations.

Bookings and Backlog. We monitor bookings and backlog as these are indicators of future revenues and business activity levels. Bookings were \$27.4 million and \$25.8 million for the three months ended June 30, 2014 and 2013, respectively. Excluding the effects of currency translation, our bookings increased \$0.8 million, or 3.1% from the previous year.

Bookings were \$53.7 million and \$51.4 million for the six months ended June 30, 2014 and 2013, respectively. Excluding the effects of currency translation, our bookings increased \$1.1 million, or 2.0% from the previous year.

Our order backlog was approximately \$6.0 million and \$3.7 million as of June 30, 2014 and 2013, respectively. Excluding the effects of currency translation, our backlog increased \$2.0 million, or 54.3% from the previous year. The increase in backlog was primarily the result of the timing of customer orders and shipments. We include in backlog only those orders for which we have received valid purchase orders. Purchase orders may be cancelled at any time prior to shipment. Our backlog as of any particular date may not be representative of actual sales for any succeeding period.

Selected Results of Operations

Three months ended June 30, 2014 compared to three months ended June 30, 2013

	Three Months Ended June 30,		Dollar Change	% Change
	2014	2013		
	(dollars in thousands)			
Revenues	\$ 26,958	\$ 26,094	\$ 864	3.3%
Cost of product revenues	14,680	14,005	675	4.8%
Gross margin percentage	45.5%	46.3%	N/A	-1.7%
Sales and marketing expenses	4,557	4,393	164	3.7%
General and administrative expenses	3,997	4,359	(362)	-8.3%
Research and development expenses	1,284	922	362	39.3%
Restructuring charges (credits)	115	(24)	139	-579.2%
HART transaction costs	-	1,016	(1,016)	-100.0%

Revenues.

Revenues increased \$0.9 million, or 3.3%, to \$27.0 million for the three months ended June 30, 2014 compared to \$26.1 million for the same period in 2013. Currency translation had a positive 2.6% effect on revenues for the three months ended June 30, 2014 compared to the same period in 2013 and was due primarily to the U.S. dollar's weakening in relation to the British pound sterling and the Euro. Excluding the effects of currency translation, our revenues increased 0.7% from the previous year.

Cost of product revenues.

Cost of product revenues increased \$0.7 million, or 4.8%, to \$14.7 million for the three months ended June 30, 2014 compared with \$14.0 million for the three months ended June 30, 2013. Gross profit margin as a percentage of revenues decreased to 45.5% for the three months ended June 30, 2014 compared with 46.3% for the same period in 2013. The decline in gross profit margin was due primarily to unexpected third party and internal-related costs incurred during three months ended June 30, 2014 to analyze, test and remediate several product requirements, including rebuilding associated technical files.

Sales and marketing expenses.

Sales and marketing expenses increased \$0.2 million, or 3.7%, to \$4.6 million for the three months ended June 30, 2014 compared with \$4.4 million for the three months ended June 30, 2013. The increase was primarily due to higher payroll related costs, including higher commissions and unfavorable currency translation.

General and administrative expenses.

General and administrative expenses were \$4.0 million for the three months ended June 30, 2014, a decrease of \$0.4 million, or 8.3%, compared with the three months ended June 30, 2013. The decrease was primarily due to lower stock compensation expenses, partially offset by unpaid incentive bonus costs and unfavorable currency translation.

Research and development expenses.

Research and development expenses were \$1.3 million for the three months ended June 30, 2014, an increase of \$0.4 million, or 39.3%, compared with the three months ended June 30, 2013. The increase was primarily due to higher payroll related costs, higher patent related costs and unfavorable currency translation.

Amortization of intangible assets.

Amortization of intangible asset expenses was \$0.6 million for the three months ended June 30, 2014 compared with \$0.7 million for the three months ended June 30, 2013 and includes amortization expense of intangible assets related to our acquisitions.

Restructuring.

Restructuring charges were \$0.1 million for three months ended June 30, 2014 compared with a net credit of \$24,000 for the three months ended June 30, 2013. The increase was due to additional charges recorded during the three months ended June 30, 2014 related to the company-wide restructuring plan we implemented during the year ended December 31, 2013. The 2013 Restructuring Plan realigned global operations and included a reduction of our workforce of approximately 13%, as well as the elimination of the position of Chief Operating Officer.

HART transaction costs.

HART transaction costs, which consist of corporate transaction costs related to the separation and spin-off of HART, were \$0 for the three months ended June 30, 2014 compared with \$1.0 million for the three months ended June 30, 2013.

Other expense, net.

Other expense, net, was \$0.5 million and \$0.3 million for the three months ended June 30, 2014 and 2013, respectively. Interest expense was flat at \$0.2 million for the three months ended June 30, 2014 and 2013. The increase in other expense, net was primarily due to \$0.2 million in business development related costs incurred during the three months ended June 30, 2014 compared to \$5,000 for the three months ended June 30, 2013.

Income taxes.

Income tax expense from continuing operations was approximately \$0.2 million and \$0.3 million for the three months ended June 30, 2014 and 2013, respectively. The effective income tax rate from continuing operations was 19.5% for the three months ended June 30, 2014, compared with 77.0% for the same period in 2013. The difference between our effective tax rate quarter over quarter was primarily attributable to higher research and development tax credits in 2013 versus 2014 due, in part, to the expiration of the U.S. research credit at the end of 2013, offset by discrete expense items related to certain non-deductible costs in 2013.

Discontinued Operations.

In September 2008, we completed the sale of assets of our Union Biometrica Division including our German subsidiary, Union Biometrica GmbH, to UBIO Acquisition Company. During 2013, the Company received earn-out payments, including interest, from UBIO Acquisition Company, of \$1.8 million related to the 2008 acquisition. The Company received its final payment under the earn-out obligation from UBIO Acquisition Company in October 2013. Included in the loss from discontinued operations, net of taxes, is a gain on disposal related to the Union Biometrica earn-out of \$0.1 million for the three months ended June 30, 2013.

On November 1, 2013, the spin-off of HART and our RMD business was completed. Through the spin-off date the historical operations of RMD were reported as continuing operations in our consolidated statements of income. Following the spin-off, the historical operations of RMD were restated and presented as discontinued operations in our consolidated statements of income. Discontinued operations include the results of the RMD business except for certain corporate overhead costs and other allocations, which remain in continuing operations. The costs we incurred to separate and spin-off the RMD business are included in our continuing operations and have been classified and reported as transaction costs, within operating expenses, on our consolidated statements of income. Loss from discontinued operations, net of taxes, related to RMD was \$0.4 million for the three months ended June 30, 2013.

Selected Results of Operations*Six months ended June 30, 2014 compared to six months ended June 30, 2013*

	Six Months Ended June 30,		Dollar Change	% Change
	2014	2013		
	(dollars in thousands)			
Revenues	\$ 52,851	\$ 52,181	\$ 670	1.3%
Cost of product revenues	28,812	27,831	981	3.5%
Gross margin percentage	45.5%	46.7%	N/A	-2.5%
Sales and marketing expenses	8,989	8,932	57	0.6%
General and administrative expenses	8,248	8,581	(333)	-3.9%
Research and development expenses	2,257	1,935	322	16.6%
Restructuring charges (credits)	252	(45)	297	-660.0%
HART transaction costs	-	1,520	(1,520)	-100.0%

Revenues.

Revenues increased \$0.7 million, or 1.3%, to \$52.9 million for the six months ended June 30, 2014 compared to \$52.2 million for the same period in 2013. Currency translation had a positive 2.3% effect on revenues for the six months ended June 30, 2014 compared to the same period in 2013. Excluding the effects of currency translation, our revenues decreased 1.0% from the previous year.

Cost of product revenues.

Cost of product revenues increased \$1.0 million, or 3.5%, to \$28.8 million for the six months ended June 30, 2014 compared with \$27.8 million for the six months ended June 30, 2013. Gross profit margin as a percentage of revenues decreased to 45.5% for the six months ended June 30, 2014 compared with 46.7% for the same period in 2013. The decline in gross profit margin was due primarily to unexpected third party and internal-related costs incurred during six months ended June 30, 2014 to analyze, test and remediate several product requirements, including rebuilding associated technical files.

Sales and marketing expenses.

Sales and marketing expenses increased \$0.1 million, or 0.6%, to \$9.0 million for the six months ended June 30, 2014 compared with \$8.9 million for the six months ended June 30, 2013. The increase was primarily due to unfavorable currency translation, partially offset by lower payroll related costs.

General and administrative expenses.

General and administrative expenses were \$8.2 million for the six months ended June 30, 2014, a decrease of approximately \$0.4 million, or 3.9%, compared with the six months ended June 30, 2013. The decrease was primarily due to lower stock compensation expenses, partially offset by unpaid incentive bonus costs and unfavorable currency translation.

Research and development expenses.

Research and development expenses were \$2.3 million for the six months ended June 30, 2014, an increase of approximately \$0.4 million, or 16.6%, compared with the six months ended June 30, 2013. The increase was primarily due to higher payroll related costs, higher patent related costs and unfavorable currency translation.

Amortization of intangible assets.

Amortization of intangible asset expenses was \$1.2 million for the six months ended June 30, 2014 compared with \$1.4 million for the six months ended June 30, 2013 and includes amortization expense of intangible assets related to our acquisitions.

Restructuring.

Restructuring charges were \$0.3 million for six months ended June 30, 2014 compared with a net credit of \$45,000 for the six months ended June 30, 2013. The increase was primarily due to additional charges recorded during the six months ended June 30, 2014 related to the company-wide restructuring plan we implemented during the year ended December 31, 2013. The 2013 Restructuring Plan realigned global operations and included a reduction of our workforce of approximately 13%, as well as the elimination of the position of Chief Operating Officer.

HART transaction costs.

HART transaction costs, which consist of corporate transaction costs related to the separation and spin-off of HART, were \$0 for the six months ended June 30, 2014 compared with \$1.5 million for the six months ended June 30, 2013.

Other expense, net.

Other expense, net, was \$0.8 million and \$0.4 million for the six months ended June 30, 2014 and 2013, respectively. Interest expense was \$0.5 million for the six months ended June 30, 2014, compared to interest expense of \$0.4 million for the six months ended June 30, 2013. The increase in interest expense was primarily due to both higher average debt balances and interest rates during the six months ended June 30, 2014 compared to the prior year. In addition to interest expense, the increase in other expense, net was due to \$0.2 million in business development related costs incurred during the six months ended June 30, 2014 compared to \$19,000 for the six months ended June 30, 2013.

Income taxes.

Income tax expense from continuing operations was approximately \$0.5 million and \$0.6 for the six months ended June 30, 2014 and 2013, respectively. The effective income tax rate from continuing operations was 23.9% for the six months ended June 30, 2014, compared with 37.7% for the same period in 2013. The difference between our effective tax rate year over year was primarily attributable to higher research and development tax credits in 2013 versus 2014 due, in part, to the expiration of the U.S. research credit at the end of 2013, offset by discrete expense items related to certain non-deductible costs in 2013.

Discontinued Operations.

In September 2008, we completed the sale of assets of our Union Biometrica Division including our German subsidiary, Union Biometrica GmbH, to UBIO Acquisition Company. During 2013, the Company received earn-out payments, including interest, from UBIO Acquisition Company, of \$1.8 million related to the 2008 acquisition. The Company received its final payment under the earn-out obligation from UBIO Acquisition Company in October 2013. Included in the loss from discontinued operations, net of taxes, is a gain on disposal related to the Union Biometrica earn-out of \$0.3 million for the six months ended June 30, 2013.

On November 1, 2013, the spin-off of HART and our RMD business was completed. Through the spin-off date the historical operations of RMD were reported as continuing operations in our consolidated statements of income. Following the spin-off, the historical operations of RMD were restated and presented as discontinued operations in our consolidated statements of income. Discontinued operations include the results of the RMD business except for certain corporate overhead costs and other allocations, which remain in continuing operations. The costs we incurred to separate and spin-off the RMD business are included in our continuing operations and have been classified and reported as transaction costs, within operating expenses, on our consolidated statements of income. Loss from discontinued operations, net of taxes, related to RMD was \$1.4 million for the six months ended June 30, 2013.

Liquidity and Capital Resources

Historically, we have financed our business through cash provided by operating activities, the issuance of common stock, and bank borrowings. Our liquidity requirements arise primarily from investing activities, including funding of acquisitions, and other capital expenditures.

As of June 30, 2014 we held cash and cash equivalents of \$26.4 million, compared with \$25.8 million at December 31, 2013. As of June 30, 2014 and December 31, 2013, we had \$22.3 million and \$24.8 million, respectively, of borrowings outstanding under our credit facility. Total cash and cash equivalents, net of debt was \$4.2 million and \$1.0 million at June 30, 2014 and December 31, 2013, respectively. In addition, we had an underfunded pension liability of approximately \$5.6 million and \$4.9 million at June 30, 2014 and December 31, 2013, respectively.

As of June 30, 2014 and December 31, 2013, cash and cash equivalents held by our foreign subsidiaries was \$24.6 million and \$23.6 million, respectively. These funds are not available for domestic operations unless the funds are repatriated. If we planned to or did repatriate these funds, then U.S. federal and state income taxes would have to be recorded on such amounts. We currently have no plans and do not intend to repatriate any of our undistributed foreign earnings. These balances are considered permanently reinvested and will be used for foreign items including foreign acquisitions, capital investments, pension obligations and operations. It is impracticable to estimate the total tax liability, if any, which would be created by the future distribution of these earnings.

Condensed Cash Flow Statements
(in thousands, unaudited)

	Six Months Ended	
	June 30,	
	2014	2013
Cash flows from operations:		
Net income	\$ 1,741	\$ (92)
Changes in assets and liabilities	(2,024)	(212)
Other adjustments to operating cash flows	2,769	1,684
Net cash provided by operating activities	2,486	1,380
Investing activities:		
Additions to property, plant and equipment	(744)	(585)
Other investing activities	78	(54)
Net cash used in investing activities	(666)	(639)
Financing activities:		
Net (repayments of) proceeds from issuance of debt	(2,500)	11,299
Other financing activities	1,001	1,999
Net cash (used in) provided by financing activities	(1,499)	13,298
Effect of exchange rate changes on cash	342	(622)
Increase in cash and cash equivalents	\$ 663	\$ 13,417

Our operating activities generated cash of \$2.5 million for the six months ended June 30, 2014 compared to \$1.4 million for the six months ended June 30, 2013. The increase in cash flows from operations was primarily due to higher net income for the six months ended June 30, 2014 compared to the same period in 2013.

Our investing activities used cash of \$0.7 million during the six months ended June 30, 2014, compared to \$0.6 million during the six months ended June 30, 2013. Investing activities during the six months ended June 30, 2014 included purchases of property, plant and equipment and proceeds from the sale of property, plant and equipment. Investing activities during the six months ended June 30, 2013 included purchases of property, plant and equipment, proceeds from the sale of property, plant and equipment and incurred catalog costs. We spent \$0.7 million and \$0.6 million on capital expenditures during the six months ended June 30, 2014 and 2013, respectively. We currently expect to make approximately \$0.9 million of capital expenditures during the remainder of 2014.

Our financing activities have historically consisted of borrowings and repayments under our revolving credit facility and term loans, payments of debt issuance costs, the issuance of common stock and, unique to 2013, the transfer of cash as part of the separation and spin-off of HART. During the six months ended June 30, 2014, financing activities used cash of \$1.5 million, compared with \$13.3 million of cash provided by financing activities for the six months ended June 30, 2013. During the six months ended June 30, 2014, we repaid \$2.5 million of debt under our credit facility and term loans, and ended the quarter with \$22.3 million of borrowings. Net proceeds from the issuance of common stock for the six months ended June 30, 2014 was \$1.0 million, which related to the exercise of stock options. During the six months ended June 30, 2013, we borrowed \$12.0 million under our credit facility, repaid \$0.8 million of debt under our credit facility and ended the quarter with \$24.3 million of borrowings. Net proceeds from the issuance of common stock for the six months ended June 30, 2013 was \$2.0 million, which related to the exercise of stock options.

Borrowing Arrangements

On August 7, 2009, we entered into an amended and restated \$20.0 million revolving credit loan agreement with Bank of America, as agent, and Bank of America and Brown Brothers Harriman & Co as lenders (the "2009 Credit Agreement"). On September 30, 2011, we entered into the First Amendment to the Amended and Restated Revolving Credit Loan Agreement (the "First Amendment") with Bank of America as agent, and Bank of America and Brown Brothers Harriman & Co as lenders. The First Amendment extended the maturity date of our credit facility to August 7, 2013 and reduced the interest rate to the London Interbank Offered Rate plus 3.0%. On October 4, 2012, we entered into the Second Amendment to the Amended and Restated Revolving Credit Loan Agreement (the "Second Amendment") with Bank of America as agent, and Bank of America and Brown Brothers Harriman & Co as lenders. The Second Amendment extended the maturity date of our credit facility to August 7, 2014.

On March 29, 2013, we entered into a Second Amended and Restated Revolving Credit Agreement (as amended, the “Credit Agreement”) with Bank of America, as agent, and Bank of America and Brown Brothers Harriman & Co as lenders, that amended and restated the 2009 Credit Agreement. The Credit Agreement converted our existing outstanding revolving advances into a term loan in the principal amount of \$15.0 million (the “Term Loan”), provided a revolving credit facility in the maximum principal amount of \$25.0 million (“Revolving Line”) and provided a delayed draw term loan of up to \$15.0 million (the “DDTL”) to fund our capital contributions to HART. The maximum amount available under the Credit Agreement is \$50.0 million as borrowings against the DDTL in excess of \$10.0 million result in a dollar for dollar reduction in the Revolving Line capacity. The Revolving Line has a maturity date of March 29, 2016, while the Term Loan and DDTL have a maturity date of March 29, 2018.

On October 31, 2013, we amended the Credit Agreement to reduce the DDTL from up to \$15.0 million to up to \$10.0 million and allow for an additional \$5.0 million to be available for drawing as advances under the Revolving Line.

Borrowings under the Term Loan and the DDTL bear interest at a rate based on either the effective London Interbank Offered Rate (LIBOR) for certain interest periods selected by us, or a daily floating rate based on the British Bankers’ Association (BBA) LIBOR as published by Reuters (or other commercially available source providing quotations of BBA LIBOR), plus in either case, a margin of 3.0%. The Revolving Line bears interest at a rate based on either the effective LIBOR for certain interest periods selected by us, or a daily floating rate based on the BBA LIBOR, plus in either case, a margin of 2.5%. We were required to fix the rate of interest on at least 50% of the Term Loan and the DDTL through the purchase of interest rate swaps. The Term Loan and DDTL each have interest payments due at the end of the applicable LIBOR period, or monthly with respect to BBA LIBOR borrowings, and principal payments due quarterly. The Revolving Line has interest payments due at the end of the applicable LIBOR period, or monthly with respect to BBA LIBOR borrowings.

At June 30, 2014, the weighted effective interest rates on the Term Loan, DDTL and Revolving Line borrowings were 3.96%, 3.54% and 3.15%, respectively. The Credit Agreement includes covenants relating to income, debt coverage and cash flow, as well as minimum working capital requirements. The Credit Agreement also contains limitations on our ability to incur additional indebtedness and requires lender approval for acquisitions funded with cash, promissory notes and/or other consideration in excess of \$6.0 million and for acquisitions funded solely with equity in excess of \$10.0 million. As of June 30, 2014, we were in compliance with all financial covenants contained in the Credit Agreement; we were subject to a working capital borrowing restriction, and had available borrowing capacity under the Credit Agreement of \$21.6 million. The practical borrowing capacity, however, is less due to our cash generation from operating activities within the U.S.

Our forecast of the period of time through which our financial resources will be adequate to support our operations is a forward-looking statement that involves risks and uncertainties, and actual results could vary as a result of a number of factors. Based on our current operations and current operating plans, we expect that our available cash, cash generated from current operations and debt capacity will be sufficient to finance current operations and capital expenditures for the next 12 months and beyond. This may involve incurring additional debt or raising equity capital for our business. Additional capital raising activities will dilute the ownership interests of existing stockholders to the extent we raise capital by issuing equity securities and we cannot assure you that we will be successful in raising additional capital on favorable terms or at all.

Critical Accounting Policies

The critical accounting policies underlying the accompanying unaudited consolidated financial statements are those set forth in Part II, Item 7 included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2013, which was filed with the SEC on March 14, 2014.

Impact of Foreign Currencies

Our international operations in some instances operate in a natural hedge as we sell our products in many countries and a substantial portion of our revenues, costs and expenses are denominated in foreign currencies, especially the British pound sterling, the Euro and the Swedish krona.

Changes in foreign currency exchange rates resulted in increases in revenues of \$1.2 million and expenses of \$1.0 million during the six months ended June 30, 2014. Changes in foreign currency exchange rates resulted in decreases in revenues of \$0.1 million and expenses of \$0.1 million during the six months ended June 30, 2013.

The gain associated with the translation of foreign equity into U.S. dollars included as a component of comprehensive income, was approximately \$0.4 million and \$0.6 million during the three and six months ended June 30, 2014, respectively, compared to a gain of \$0.2 million and a loss of \$1.8 million during the three and six months ended June 30, 2013, respectively. In addition, currency exchange rate fluctuations included as a component of net income resulted in approximately \$67,000 and \$148,000 in foreign currency losses during the three and six months ended June 30, 2014, respectively, compared to \$25,000 in foreign currency losses and \$9,000 in foreign currency gains during the three and six months ended June 30, 2013, respectively.

Recently Issued Accounting Pronouncements

In May 2014, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) 2014-09, "*Revenue from Contracts with Customers*," a new accounting standard that provides for a comprehensive model to use in the accounting for revenue arising from contracts with customers that will replace most existing revenue recognition guidance in U.S. GAAP. Under this standard, revenue will be recognized to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which we expect to be entitled in exchange for those goods or services. This standard will be effective as of the beginning of our 2017 fiscal year. We are assessing the new standard and have not yet determined the impact to our consolidated financial statements.

Item 3. Quantitative and Qualitative Disclosures about Market Risk.

The majority of our manufacturing and testing of products occurs in our facilities in the United States, the United Kingdom, Germany, Sweden and Spain. We sell our products globally through our direct catalog sales, our websites, direct sales force and indirect distributor channels. As a result, our financial results are affected by factors such as changes in foreign currency exchange rates and weak economic conditions in foreign markets.

We collect amounts representing a substantial portion of our revenues and pay amounts representing a substantial portion of our operating expenses in foreign currencies. As a result, changes in currency exchange rates from time to time may affect our operating results.

We are exposed to market risk from changes in interest rates primarily through our financing activities. As of June 30, 2014, we had \$22.3 million outstanding under our Credit Agreement. The purpose of the Credit Agreement was to convert our existing outstanding revolving advances into a Term Loan in the principal amount of \$15.0 million, provide a Revolving Line facility in the maximum principal amount of \$25.0 million, and provide a DDTL of up to \$10.0 million, reduced from \$15.0 million as discussed below, to fund capital contributions to our subsidiary, HART. The Revolving Line has a maturity date of March 29, 2016, while the Term Loan and DDTL have a maturity date of March 29, 2018. On October 31, 2013, we amended the Credit Agreement to reduce the DDTL from up to \$15.0 million to up to \$10.0 million and allow for an additional \$5.0 million to be available for drawing as advances under the Revolving Line.

Borrowings under the Term Loan and the DDTL shall bear interest at a rate based on either the effective London Interbank Offered Rate (LIBOR) for certain interest periods selected by us, or a daily floating rate based on the BBA LIBOR as published by Reuters (or other commercially available source providing quotations of BBA LIBOR), plus in either case, a margin of 3.0%. The Revolving Line shall bear interest at a rate based on either the effective LIBOR for certain interest periods selected by us, or a daily floating rate based on the BBA LIBOR, plus in either case, a margin of 2.5%. We were required to fix the rate of interest on at least 50% of the Term Loan and the DDTL through the purchase of an interest rate swap. The Term Loan and DDTL each have interest payments due at the end of the applicable LIBOR period, or monthly with respect to BBA LIBOR borrowings, and principal payments are due quarterly. The Revolving Line has interest payments due at the end of the applicable LIBOR period, or monthly with respect to BBA LIBOR borrowings. Effective June 5, 2013, we entered into an interest rate swap contract with a notional amount of \$15 million and a maturity date of March 29, 2018 in order to hedge the risk of changes in the effective benchmark interest rate (LIBOR) associated with our Term Loan. The swap contract converted specific variable-rate debt into fixed-rate debt and fixed LIBOR associated with the Term Loan at 0.96% plus a bank margin of 3.0%. Effective November 29, 2013, we entered into a second interest rate swap contract with a notional amount of \$5.0 million and a maturity date of March 29, 2018 in order to hedge the risk of changes in LIBOR associated with a portion of our DDTL. The swap contract converted specific variable-rate debt into fixed rate debt and fixed LIBOR associated with half of the DDTL amount at 0.93% plus a bank margin of 3.0%. These swap contracts were associated with reducing or eliminating interest rate risk and were designated as cash flow hedge instruments in accordance with ASC 815. We use interest-rate-related derivative instruments to manage our exposure related to changes in interest rates on our variable-rate debt instruments. We do not enter into derivative instruments for any purpose other than cash flow hedging and we do not speculate using derivative instruments.

As of June 30, 2014, the weighted effective interest rates on the Company's Term Loan, DDTL and Revolving Line borrowings were 3.96%, 3.54% and 3.15%, respectively. Assuming no other changes which would affect the margin of the interest rate under our Term Loan, DDTL and Revolving Line, the effect of interest rate fluctuations on outstanding borrowings under our Credit Agreement as of June 30, 2014 over the next twelve months is quantified and summarized as follows:

If compared to the rate as of June 30, 2014	Interest expense increase	
	(in thousands)	
Interest rates increase by 1%	\$	68
Interest rates increase by 2%	\$	135

Item 4. Controls and Procedures.

Disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) are designed to ensure that information required to be disclosed in reports filed or submitted under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified in SEC rules and forms and that such information is accumulated and communicated to management, including the Chief Executive Officer and the Chief Financial Officer, to allow timely decisions regarding required disclosures.

As required by Rules 13a-15(e) and 15d-15(e) under the Exchange Act, our management, under the supervision and with the participation of our Chief Executive Officer and Chief Financial Officer, conducted an evaluation of the effectiveness of the design and operation of our disclosure controls and procedures as of June 30, 2014. Our disclosure controls and procedures are designed to provide reasonable assurance that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and our management necessarily was required to apply its judgment in evaluating and implementing our disclosure controls and procedures. Based upon the evaluation described above, our Chief Executive Officer and Chief Financial Officer have concluded that they believe that our disclosure controls and procedures were effective, as of the end of the period covered by this Quarterly Report on Form 10-Q, in providing reasonable assurance that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, to allow timely decisions regarding required disclosures, and is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms.

We continue to review our internal controls over financial reporting, and may from time to time make changes aimed at enhancing their effectiveness and to ensure that our systems evolve with our business. These efforts have led to various changes in our internal controls over financial reporting. There were no changes in our internal controls over financial reporting that occurred during the three and six months ended June 30, 2014 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

Item 1A. Risk Factors.

To our knowledge, and except to the extent additional factual information disclosed in this Quarterly Report on Form 10-Q relates to such risk factors, there has been no material changes in the risk factors described in "Item 1A. Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2013, which was filed with the SEC on March 14, 2014, as amended by the risk factors described in "Item 1A. Risk Factors" in our Quarterly Report on Form 10-Q for the period ended March 31, 2014, which was filed with the SEC on May 8, 2014.

Item 6. Exhibits

Exhibit Index	
10.1+	Amendment No. 3 and Confirmation of Lease by and between Seven October Hill LLC and Harvard Bioscience, Inc., dated as of May 30, 2014.
31.1+	Certification of Chief Financial Officer of Harvard Bioscience, Inc., pursuant to Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2+	Certification of Chief Executive Officer of Harvard Bioscience, Inc., pursuant to Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1*	Certification of Chief Financial Officer of Harvard Bioscience, Inc., pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.

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32.2*	Certification of Chief Executive Officer of Harvard Bioscience, Inc., pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS**	XBRL Instance Document
101.SCH**	XBRL Taxonomy Extension Schema Document
101.CAL**	XBRL Taxonomy Extension Calculation Linkbase Document
101.LAB**	XBRL Taxonomy Extension Labels Linkbase Document
101.PRE**	XBRL Taxonomy Extension Presentation Linkbase Document
101.DEF**	XBRL Taxonomy Extension Definition Linkbase Document

+ Filed herewith.

* This certification shall not be deemed “filed” for purposes of Section 18 of the Securities Exchange Act of 1934, or otherwise subject to the liability of that section, nor shall it be deemed to be incorporated by reference into any filing under the Securities Act of 1933 or the Securities Exchange Act of 1934.

** XBRL (Extensive Business Reporting Language) information is furnished and not filed or a part of a registration statement or prospectus for purposes of sections 11 or 12 of the Securities Act of 1933, is deemed not filed for purposes of Section 18 of the Securities Exchange Act of 1934, and otherwise is not subject to liability under these sections.

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 undersigned thereunto duly authorized.

Date: August 7, 2014

HARVARD BIOSCIENCE, INC.

By: /S/ JEFFREY A. DUCHEMIN
Jeffrey A. Duchemin
Chief Executive Officer

By: /S/ ROBERT E. GAGNON
Robert E. Gagnon
Chief Financial Officer

INDEX TO EXHIBITS

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AMENDMENT NO. 3
and Confirmation of Lease

84 October Hill Road, Holliston, Massachusetts

This Amendment No. 3 and Confirmation of Lease (this "**Amendment**") is entered into as of this 30th day of May, 2014 ("**Effective Date**") between **Seven October Hill LLC**, a Massachusetts Limited Liability Company ("**Landlord**"), and **Harvard Bioscience, Inc.**, a Delaware corporation ("**Tenant**") for the purpose of amending the Lease between Landlord and Tenant dated December 30, 2005 (the "**Original Lease**"). The term "**Lease**" as used herein shall mean the Original Lease, as amended by this Amendment. Capitalized terms used herein but not defined shall be given the meanings assigned to them in the Lease.

Pursuant to the terms of the Lease, Tenant leases certain Premises located in the building known as 84 October Hill Road, Holliston, MA, and more particularly described in the Lease. Tenant now desires to lease additional space in the Building and therefore, the parties now desire to amend the Lease to reflect the leasing of the additional space, to extend the Term of the Lease and to make certain other revisions as more particularly set forth below.

NOW, THEREFORE, in consideration of the foregoing and the mutual agreements herein contained and for other valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties agree as follows:

1. **Revised Basic Lease Information.** The Basic Lease Information section of the Lease is hereby deleted in its entirety and the following is substituted therefore:

BASIC LEASE INFORMATION

Lease Date:	as of December 30, 2005
Tenant:	Harvard Bioscience, Inc.
Landlord:	Seven October Hill, LLC , a Massachusetts limited liability company.
Premises:	Approximately 83,123 rentable square feet of space in the building (Building # 7) (the " Building ") whose street address is 84 October Hill Road, Holliston, Massachusetts. The Premises is comprised of collectively, the Existing Premises and the Expansion Premises. The term " Building " includes the land on which the Building is located and the driveways, parking facilities and similar improvements located thereon.
Existing Premises:	Approximately 61,570 rentable square feet of space in the Building as shown more particularly on the floor plans attached to this Amendment as <u>Exhibits A1-A4</u> .
Expansion Premises:	Approximately 21,553 rentable square feet of space in the Building as shown more particularly on the floor plans attached to this Amendment as <u>Exhibit B</u> .

Park: The industrial park known as New Englander Industrial Park, October Hill Road, Holliston, MA. The Building is located in the Park.

Commencement Date: March 1, 2006.

EP Commencement Date: The later to occur of (i) September 1, 2014; or (ii) the Substantial Completion Date as defined in Section 2 of this Amendment.

Term: With respect to the Existing Premises, the period commencing on the Commencement Date, and with respect to the Expansion Premises, the period commencing on the EP Commencement Date, and in each case expiring one hundred twenty (120) months after the EP Commencement Date (anticipated on August 31, 2024), unless terminated earlier pursuant to the terms of this Lease (the "**Expiration Date**").

Basic Rent: Basic Rent shall be the following amounts for the following periods of time:

Period	Monthly Basic Rent	Rate per R.S.F
Effective Date— one (1) day immediately preceding the EP Commencement Date	\$28,476.12	\$5.55 per rsf/triple net
EP Commencement Date — Month 12 (August 31, 2015)	\$39,830.00	\$ 5.75 per rsf/triple net
Month 13 — Month 24 (September 1, 2015—August 31, 2016)	\$39,830.00	\$ 5.75 per rsf/triple net
Month 25 — Month 36 (September 1, 2016—August 31, 2017)	\$39,830.00	\$ 5.75 per rsf/triple net
Month 37 — Month 48 (September 1, 2017—August 31, 2018)	\$41,561.00	\$ 6.00 per rsf/triple net
Month 49 — Month 60 (September 1, 2018—August 31, 2019)	\$42,254.00	\$ 6.10 per rsf/triple net
Month 61 — Month 72 (September 1, 2019—August 31, 2020)	\$42,254.00	\$ 6.10 per rsf/triple net
Month 73 — Month 84 (September 1, 2020—August 31, 2021)	\$43,640.00	\$ 6.30 per rsf/triple net
Month 85 — Month 96 (September 1, 2021—August 31, 2022)	\$43,640.00	\$ 6.30 per rsf/triple net
Month 97 — Month 108 (September 1, 2022—August 31, 2023)	\$45,025.00	\$ 6.50 per rsf/triple net
Month 109 — Month 120 (September 1, 2023—August 31, 2024)	\$45,025.00	\$ 6.50 per rsf/triple net

*Dates in parenthesis () are estimated dates

Security Deposit: \$40,000.00. Landlord is currently holding \$30,785.00 and upon execution of this Amendment, Tenant shall pay to Landlord \$9,215.00 as an additional security deposit. See Section 6 of the Original Lease.

Rent: Basic Rent plus all additional rent and other sums that Tenant may owe to Landlord or otherwise be required to pay under the Lease.

Permitted Use: Office, warehouse, distribution and light manufacturing use as permitted by the zoning by-laws of the Town of Holliston.

Tenant's Proportionate Share: 54.97%, provided that from and after the EP Commencement Date, Tenant's Proportionate Share shall mean 74.22% (the percentage obtained by dividing the rentable square feet in the Premises (83,123) by the rentable square feet in the Building (112,000))

Initial Liability Insurance Amount: \$2,000,000.00.

Tenant's Address: For All Notices:
Harvard Bioscience, Inc.
84 October Hill Road
Holliston, MA 01746
Attn: Robert Gagnon
Telephone: (508) 893 8999
Telecopy: (508) 429 8478

Landlord's Address: For all Notices & Payments:
Seven October Hill LLC
c/o Parsons Commercial Group
1881 Worcester Road
Framingham, MA 01701
Attention: John R. Parsons, Jr.
Telephone: 508-820-2700
Telecopy: 508-820-2727

The foregoing Basic Lease Information is incorporated into and made a part of the Lease identified above. If any conflict exists between any Basic Lease Information and the Lease, then the Lease shall control.

2. **Landlord's Work/Expansion Premises.** Landlord agrees to perform the work and improvements in the Expansion Premises as described on **Exhibit C** attached hereto and made a part hereof ("**Landlord's Work**"). Landlord's Work shall be performed in a good and workmanlike manner substantially in accordance with the plans and specifications referenced in **Exhibit C** and in accordance with all applicable laws and regulations. Landlord may make reasonable substitutions of the materials and methods of construction described in **Exhibit C** in order to accommodate field conditions encountered during performance of Landlord's Work. Except for the completion of Landlord's Work, Tenant acknowledges and represents to Landlord that it has inspected and examined, or caused to be inspected and examined, the Expansion Premises and that it is satisfied with the physical condition and state of repair thereof, and Tenant will accept the Expansion Premises on the EP Commencement Date, in their existing condition and state of repair "as-is" subject to performance of Landlord's Work, and Landlord shall have no obligation to do any work or make any installation or alteration of any kind to the Expansion Premises, except any "punch-list items" to complete Landlord's Work.

Tenant's interior furnishings (i.e., specification, coordination, supply and installation of furniture, furnishings, telephones and movable equipment) will be the responsibility of Tenant. Tenant's installation of furnishings and later changes or additions to the Expansion Premises may occur prior to the Substantial Completion Date upon Landlord's prior approval, which approval shall not be unreasonably withheld, conditioned or delayed, provided that such work shall be coordinated with any work being performed by Landlord in such manner as to maintain reasonably harmonious labor relations and so as not to cause any delay in Landlord's Work or damage the Building or unreasonably interfere with the Building's operations. Tenant's occupancy of the Expansion Premises for such purposes prior to the Substantial Completion Date shall be governed by all the terms and provisions of this Lease other than the payment of Rent.

The "**Substantial Completion Date**" shall be the date that (1) Landlord's Work has been substantially completed (with the exception of minor items which can be completed without material interference to Tenant's access to or use of the Premises for the Permitted Use, i.e., so called "punch-list items") and (2) the Expansion Premises can be legally occupied, with a certificate of completion, certificate of occupancy or similar certification issued by the applicable governmental authority. Landlord shall diligently pursue and complete all punch-list items within a reasonable time, subject to availability of materials, and other factors beyond Landlord's reasonable control. Notwithstanding the foregoing, if the Substantial Completion Date is delayed due to delays caused by Tenant (a "**Tenant Delay**"), including, without limitation, change orders, lack of timely action with respect to plans or submission of information which Tenant is required to provide hereunder, long lead time items required by Tenant, or any other actions or inactions of Tenant which directly prevent Landlord from completing (or which directly delay) any of Landlord's Work, the actual Substantial Completion Date shall be moved back by the same number of days that substantial completion was delayed by reason of any of the foregoing Tenant delays. Before Landlord may claim a Tenant Delay, Landlord shall give Tenant written notice of any action or inaction on the part of Tenant that may result in such a Tenant Delay. The estimated Substantial Completion Date is September 1, 2014.

Landlord shall deliver the Expansion Premises to Tenant on the Substantial Completion Date with the base building, including slab, steel, structure, exterior walls, roof, and mechanical systems in good working order.

In the event that Landlord has not Substantially Completed Landlord's Work with respect to the Expansion Premises and delivered the Expansion Premises to Tenant by September 15, 2014, subject to delays due to Force Majeure or Tenant Delay, then Basic Rent for the Expansion Premises shall be abated on the basis of one (1) day of Basic Rent for every day that Landlord has not Substantially Completed Landlord's Work and delivered the Expansion Premises to Tenant after September 15, 2014.

3. **Landlord's Work/Existing Premises.** Landlord agrees, at Landlord's sole cost and expense, to perform the following work, as part of Landlord's Work: (1) construction of a product display area in the reception area lobby of the Existing Premises, the scope and size of such display to be mutually agreed upon by Landlord and Tenant; (2) repaint selected areas of the Existing Premises as needed; and (3) paint and recarpet the common area lobby (lobby A) and sheet rock or paint the interior red brick in this lobby.

Utilities. In accordance with the provisions of Section (8)(a) of the Original Lease, Tenant shall obtain and pay for all water, gas, electricity, heat, telephone, sprinkler charges and other utilities and services servicing the Premises. The utilities are separately metered and Tenant shall pay all such charges directly to the utility service providers, together with all taxes, penalties, surcharges, and maintenance charges pertaining thereto.

5. **Parking and Loading Docks.** Notwithstanding anything to the contrary in the Original Lease, Tenant shall be entitled to use up to one hundred and ten (110) parking spaces in the Building's parking area on an unreserved basis. Tenant shall the exclusive right to use the loading docks located within the Premises.

6. **Adjacent Space.** Tenant shall have a right of first refusal (the "**Right of First Refusal**"), subject to the terms herein, with respect to the space currently occupied by Union Bio and shown as the "Union Bio Space" on the floor plan attached hereto as Exhibit B-1 (the "**Refusal Space**"). The Right of First Refusal shall be exercised as follows: Landlord shall send Tenant a notice stating that (i) Union Bio intends to vacate the Refusal Space and the expected date that the Refusal Space will be available to lease and (ii) the rental rate upon which Landlord is willing to lease the Refusal Space, which shall be the fair market rent as determined, in good faith, by Landlord ("**Landlord's RFR Notice**"). Tenant may lease the Refusal Space by providing Landlord with written notice of exercise sent within ten (10) days after the date of Landlord's RFR Notice. If Tenant sends notice to Landlord within the time period set forth above electing to lease the Refusal Space, the Refusal Space shall be added to this Lease for the Term and at the rental rate set forth in Landlord's RFR Notice and the parties shall enter into an amendment to this Lease reflecting the addition of the Refusal Space to the "Premises" and the adjustment to the Basic Rent and Tenant's Proportionate Share and such other terms as Landlord may reasonably request. If Tenant fails to reply within the time period set forth above, or provides notice that Tenant does not want to lease the Refusal Space, this Right of First Refusal shall automatically terminate and Tenant shall have no further rights under this Section 6, except that Landlord may only lease the Refusal Space to a third party at the rental rate specified in Landlord's RFR Notice, if Landlord decreases the rental rate offered to a third party, Landlord shall provide a new Landlord's RFR Notice to Tenant and its rights under this Section 6 shall apply to the new notice. Notwithstanding the foregoing, upon the occurrence of an Event of Default or upon any subletting of the Premises or assignment of this Lease, this Right of First Refusal shall automatically terminate. In addition, if there is less than five years left in the Term at the time the Refusal Space becomes available, Landlord shall not be obligated to deliver an RFR Notice.

7. **Amendments to Original Lease.** The Original Lease is further amended as set forth below:

A. **Assignment/Sublet.** Section 11(a) of the Original Lease is amended by deleting the last sentence in this Section. Any Transfer under the Lease shall require Landlord's prior written consent, such consent not to be unreasonably withheld, conditioned or delayed.

B. **Casualty.** Section 16 (b) of the Original Lease is amended by deleting the reference to "90 days" in the fifth line and substituting "180 days" therefore.

C. **Exhibits.** The following Exhibits to the Original Lease are hereby deleted: Exhibits C (Tenant's Finish Work), D (Expansion Option), E (Renewal Option), F (Overflow Parking) and G (Landlord insurance certificate).

8. **Prior Amendments.** The Original Lease has been amended by Amendment No.1 dated June 1, 2006 and Amendment No. 2 dated May 22, 2010 (collectively the "**Prior Amendments**"). Landlord and Tenant agree that, as of the EP Commencement Date, the Prior Amendments and all terms and conditions set forth therein are hereby terminated in their entirety and are of no further force and effect.

9. **Signage.** Tenant shall have the right to install a sign on the exterior of the Building subject to Landlord's reasonable approval as to the location, size and design of such sign and the means of attachment to the Building. Tenant shall obtain all necessary approvals for such sign and shall maintain its sign in good condition and repair. At the expiration of this Lease, Tenant shall remove the sign and repair any damage to the Building caused by such removal.

10. **Operating Costs.** The Operating Costs are hereby adjusted to a cap of \$1.70 per rentable square foot until January 1, 2015, after such date the Operating Costs may only increase at a maximum of 5% per annum. There is no cap on Real Estate Taxes for the term of the Lease.

11. **Entire Agreement/Ratification.** This Amendment and the attached exhibits, which are hereby incorporated into and made a part of this Amendment, set forth the entire agreement between the parties with respect to the matters set forth herein. This Amendment shall be binding upon and shall inure to the benefit of Landlord and Tenant and their respective legal representatives, successors and assigns. There have been no additional oral or written representations or agreements. Under no circumstances shall Tenant be entitled to any Rent abatement, improvement allowance, leasehold improvements, or other work to the Premises, or any similar economic incentives that may have been provided to Tenant in connection with entering into the Original Lease, unless specifically set forth in this Amendment and Tenant has no further rights to extend the term of this Lease. If any inconsistency exists or arises between the terms of this Amendment and the terms of the Original Lease, the terms of this Amendment shall prevail. Tenant hereby ratifies and confirms its obligations under the Lease, and represents and warrants to Landlord that it has no defenses thereto. Additionally, Tenant further confirms and ratifies that, as of the Effective Date, the Lease is and remains in good standing and in full force and effect, and Tenant has no current claims, counterclaims, set-offs or defenses against Landlord arising out of the Lease or in any way relating thereto or arising out of any other transaction between Landlord and Tenant.

12. **Governing Law.** This Amendment shall be governed by the laws of the Commonwealth of Massachusetts.

13. **Brokers.** It is agreed and understood that neither Landlord nor Tenant has dealt with any broker or agent in connection with the negotiation or execution of this Amendment other than Parsons Commercial Group, Inc. whose commission shall be paid by Landlord pursuant to a separate agreement.

14. **Counterparts.** This Amendment may be executed in multiple counterparts, each of which shall constitute an original, but all of which shall constitute one document.

[Remainder of Page Intentionally Left Blank]

WHEREFORE, the parties hereunto set their hands and seals as of the date first set forth above.

LANDLORD:

Seven October Hill LLC, a Massachusetts Limited Liability Company

By: /s/ John R. Parsons, Jr.
John R. Parsons, Jr., Manager

TENANT:

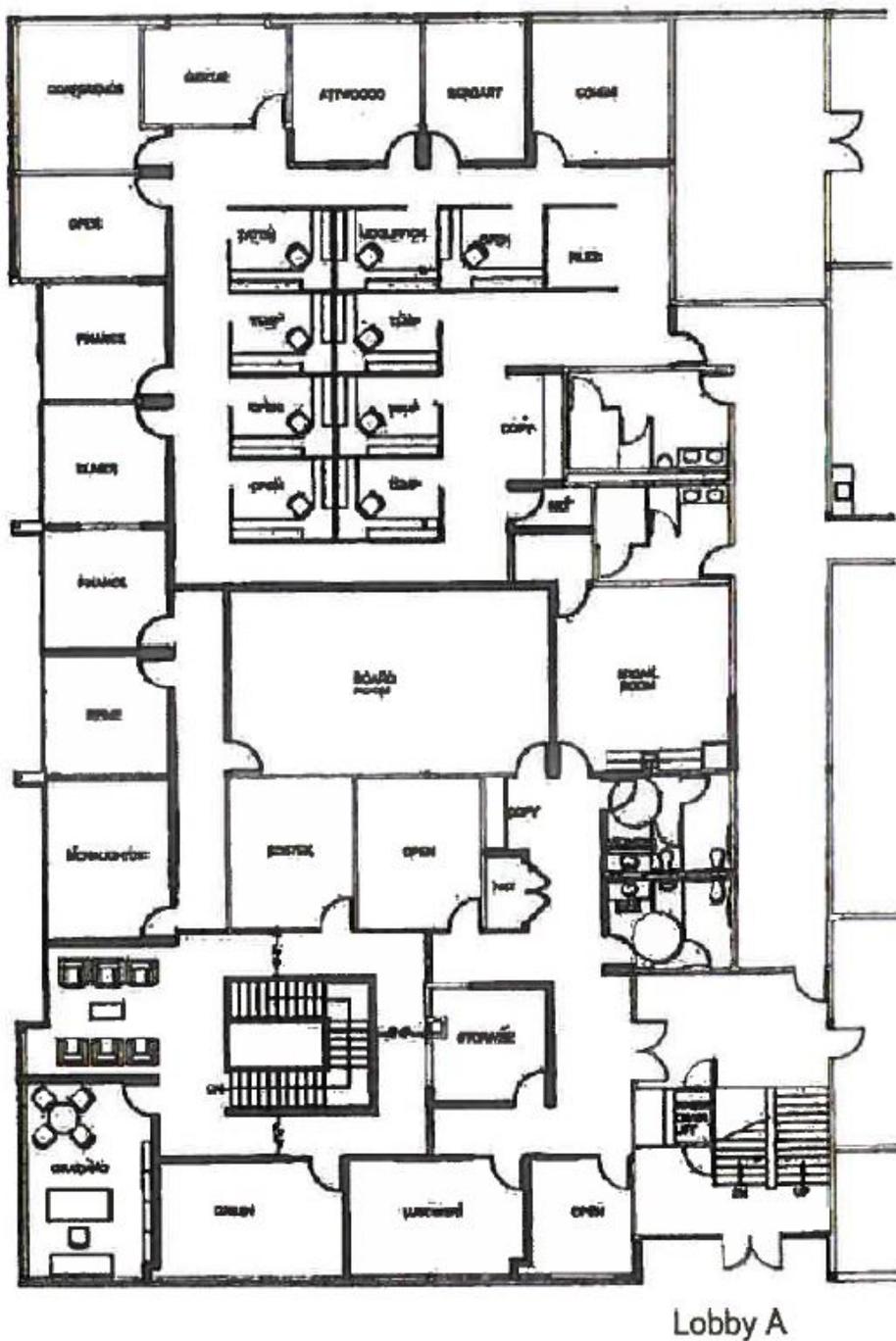
Harvard Bioscience, Inc., a Delaware corporation

By: /s/ Robert E. Gagnon
Name: Robert E. Gagnon
Title: CFO

EXHIBITS A1- A4 (continued)
FLOOR PLANS SHOWING EXISTING PREMISES

EXHIBIT A3

Not to Scale



Harvard Bioscience, Inc.
84 October Hill Rd Holliston MA
Second Floor South
Approx. 8,750 RSF (Left of Lobby A)

EXHIBITS A1- A4 (continued)
FLOOR PLANS SHOWING EXISTING PREMISES

*Not to scale

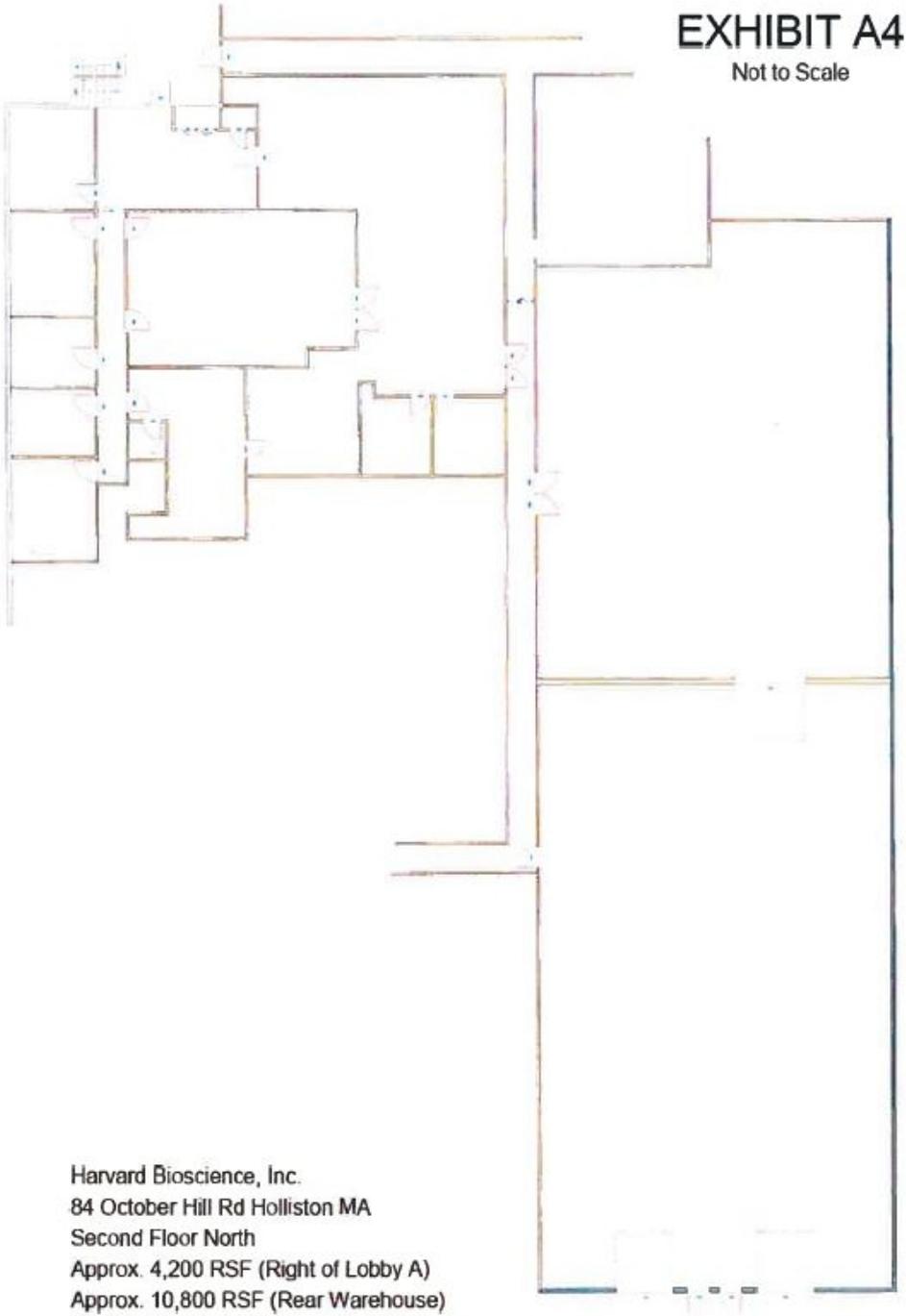
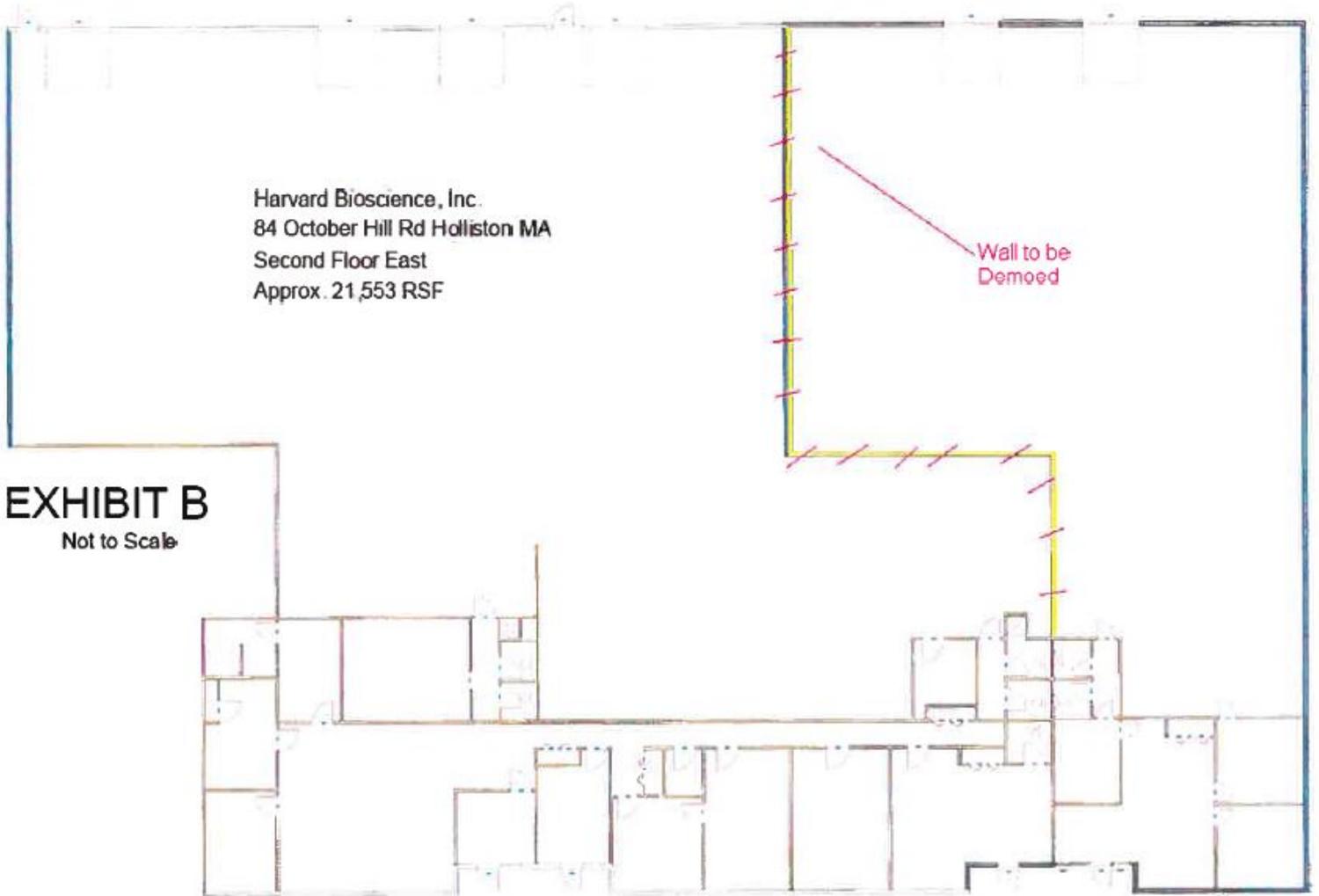


EXHIBIT B
FLOOR PLAN SHOWING EXPANSION PREMISES

*Not to scale



**EXHIBIT B-1
FLOOR PLAN SHOWING RIGHT OF FIRST REFUSAL SPACE**

*Not to scale

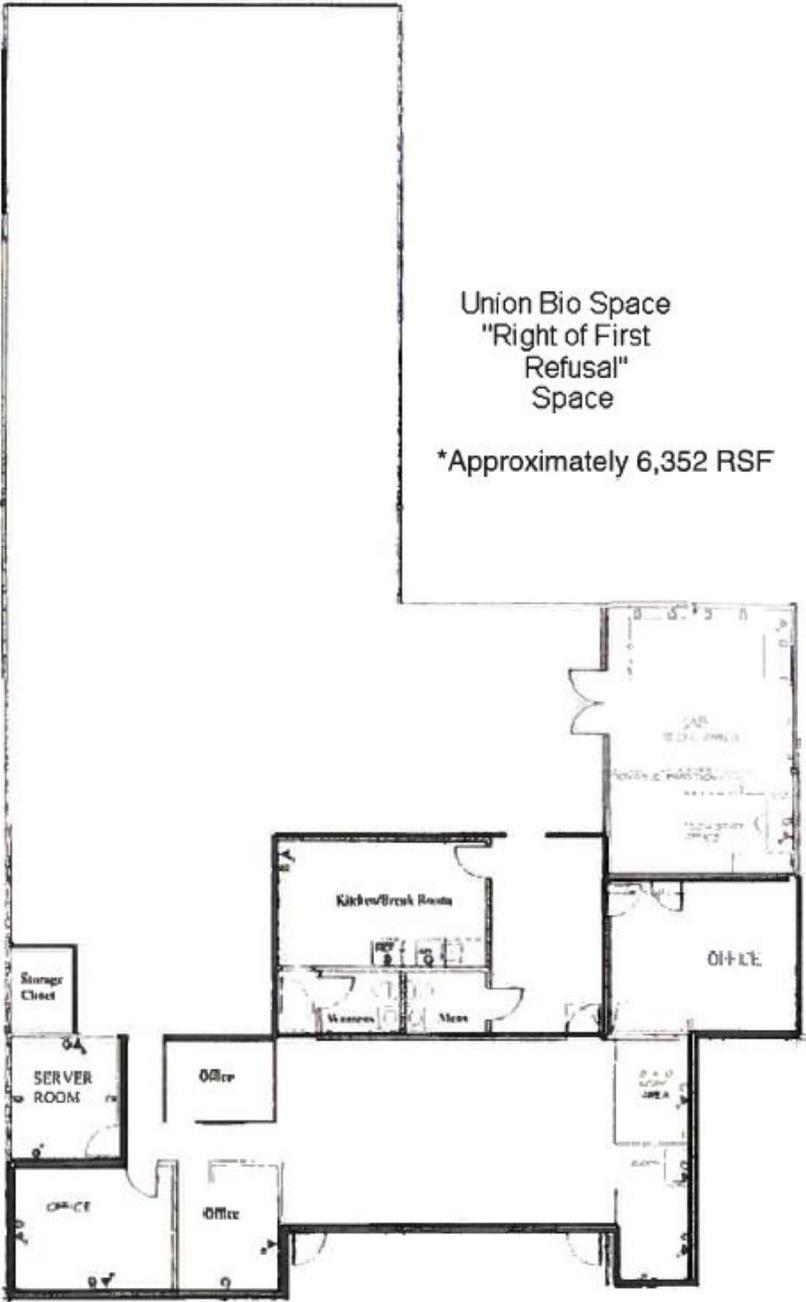


EXHIBIT C
DESCRIPTION OF LANDLORD'S WORK
For EXPANSION and EXISTING PREMISES

LANDLORD WORK LETTER SUMMARY:

The Landlord at Landlord's sole cost and expense shall perform the following work listed below under *Sections 1, 2 & 3*. In all other regards the Expansion Premises and the Existing Premises is taken in its "as-is" condition.

I. TENANT IMPROVEMENT — ALLOWANCES:

Section 1- Landlord Work on the EXPANSION PREMISES:

- A. DEMO** — Landlord shall remove the demising wall as shown on Exhibit B highlighted in Yellow. (This wall splits the warehouse areas of the Expansion Premises).
- B. DEMO** — Landlord and Tenant will mutually agree to selective demo in the Expansion Premises Office area.
- C. CEILINGS** — Landlord will install new second look tiles throughout the Expansion Premises Office Space, Restrooms, and Break room areas.
- D. PAINTING** — All wall surfaces in the Office, Restrooms and Break room areas of the Expansion Premises shall receive one (1) finish coat of building standard paint over one (1) prime coat of paint. Tenant shall select the paint color for the Premises. There will be no more than two (2) wall colors used in the Premises and the color for door frames can be an additional color. (Landlord shall provide Tenant with a paint chart for the Tenant to select the paint colors from).
- E. FLOORING** — New Carpet shall be installed throughout the office area of the Expansion Area. New VCT Tile will be installed in the Bathroom and Break room areas of the Expansion Premises. (Landlord shall provide Tenant with standard selection books to pick carpet and tile from.)
- F. BATHROOM VANITIES** — Bathroom vanities will be replaced in all bathrooms in the Expansion Area. (Tenant will be provided a standard selection sheet by Landlord from which to choose the vanities from).
- G. LIGHTING** — Landlord agrees to install LED Lighting throughout the warehouse space in the Expansion Premises. New lighting will be installed in all the Res rooms in the Expansion Premises.
- H. BREAK ROOM** — Landlord agrees to install new flooring, cabinets and lighting in the Break room area to create a café environment in the Expansion Premises. (Landlord shall provide Tenant with standard selection books for the flooring, cabinets and lighting for which Tenant may choose from).

Section 2- Landlord at Landlords sole cost and expense agree to perform the following work on the EXISTING PREMISES:

A. RECEPTION LOBBY DISPLAY — Landlord agrees to construct a product display in Existing Lobby area of the Lower Level Front entrance. The scope and size of this display area will be mutually agreeable between Landlord and Tenant.

B. PAINTING AND TOUCH UP — Landlord agrees to re-paint and touch-up mutually agreeable areas of the Existing Premises.

Section 3- Landlord at Landlords sole cost and expense agree to perform the following work to the COMMON AREA of Lobby A:

Landlord agrees to perform the following work in the common area of Lobby A, sheetrock and paint over the existing red brick interior walls. Landlord further agrees to install new carpet in the stair areas and landings and at the upper and lower landing levels as well as the hallway in Lobby A.

II. ABOVE STANDARD ALLOWANCES

A. Any above-standard Tenant improvements, i.e. improvements that exceed the standards described either in quantity or quality of materials, or in structural, mechanical or electrical capacities which are requested by Tenant and elected by Tenant after Landlord has advised Tenant of the additional expense of such above standard improvements, shall be at the Tenant's sole cost expense including all reasonable related design fees, or except as may be otherwise negotiated and attached in writing.

III. BUILDING STANDARD MATERIAL SELECTIONS

A. Building standard materials will be selected by Tenant from samples provided by the Landlord. Any deviations from this list will be considered an "above standard" choice and will be subject to the provisions of Paragraph II above.

Carpet loop: 26oz direct glue down carpet. Sample book to be provided to Tenant by Landlord.

VCT: AZRock VCT Standard tiles for the kitchen and computer room to be selected by the Tenant in checker board pattern.

Vinyl wall base: New Vinyl wall base approximately 4" throughout the Premises to be selected by Tenant.

Paint: Sherwin Williams or equivalent will be used — sample will be provided to Tenant.

Acoustical ceilings: 2'x4' Armstrong mineral fiber tile (or equivalent) with Standard Grid — second look tiles will be installed in the Expansion Area.

In all other regards the Expansion Premises and the Existing Premises are accepted in there "as-is" condition and Landlord shall have no obligation to perform additional work that is not explicitly described herein.

Certification

I, Robert E. Gagnon, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Harvard Bioscience, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)), and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 7, 2014

/s/ ROBERT E. GAGNON

Robert E. Gagnon
Chief Financial Officer

Certification

I, Jeffrey A. Duchemin, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Harvard Bioscience, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)), and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 7, 2014

/s/ JEFFREY A. DUCHEMIN

Jeffrey A. Duchemin

Chief Executive Officer

CERTIFICATION OF PERIODIC FINANCIAL REPORT

PURSUANT TO 18 U.S.C. SECTION 1350

The undersigned officer of Harvard Bioscience, Inc. (the "Company") hereby certifies to his knowledge that the Company's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2014 (the "Report") to which this certification is being furnished as an exhibit, as filed with the Securities and Exchange Commission on the date hereof, fully complies with the requirements of Section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and that the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company. This certification is provided solely pursuant to 18 U.S.C. Section 1350 and Item 601(b)(32) of Regulation S-K ("Item 601(b)(32)") promulgated under the Securities Act of 1933, as amended (the "Securities Act"), and the Exchange Act. In accordance with clause (ii) of Item 601(b)(32), this certification (A) shall not be deemed "filed" for purposes of Section 18 of the Exchange Act, or otherwise subject to the liability of that section, and (B) shall not be deemed to be incorporated by reference into any filing under the Securities Act or the Exchange Act, except to the extent that the Company specifically incorporates it by reference.

Date: August 7, 2014

/s/ ROBERT E. GAGNON

Name: Robert E. Gagnon

Title: Chief Financial Officer

CERTIFICATION OF PERIODIC FINANCIAL REPORT**PURSUANT TO 18 U.S.C. SECTION 1350**

The undersigned officer of Harvard Bioscience, Inc. (the “Company”) hereby certifies to his knowledge that the Company’s Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2014 (the “Report”) to which this certification is being furnished as an exhibit, as filed with the Securities and Exchange Commission on the date hereof, fully complies with the requirements of Section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), and that the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company. This certification is provided solely pursuant to 18 U.S.C. Section 1350 and Item 601(b)(32) of Regulation S-K (“Item 601(b)(32)”) promulgated under the Securities Act of 1933, as amended (the “Securities Act”), and the Exchange Act. In accordance with clause (ii) of Item 601(b)(32), this certification (A) shall not be deemed “filed” for purposes of Section 18 of the Exchange Act, or otherwise subject to the liability of that section, and (B) shall not be deemed to be incorporated by reference into any filing under the Securities Act or the Exchange Act, except to the extent that the Company specifically incorporates it by reference.

Date: August 7, 2014

/s/ JEFFREY A. DUCHEMIN _____

Name: Jeffrey A. Duchemin

Title: Chief Executive Officer