SECURITIES AND EXCHANGE COMMISSION

Washington, DC 20549

FORM 10-Q

(Mark One)

☒ Quarterly report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934.
For the quarterly period ended June 30, 2003 or

o 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 000-31923

HARVARD BIOSCIENCE, INC.

(Exact Name of Registrant as Specified in Its Charter)

Delaware	**04-3306140**
(State or other Jurisdiction of Incorporation or Organization)	(I.R.S. Employer Identification No.)

84 October Hill Road, Holliston, MA	**01746**
(Address of Principal Executive Offices)	(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 o.

Indicate by check mark whether the registrant is an accelerated filer (as defined in Exchange Act Rule 12b-2).

Yes ☒ No o.

APPLICABLE ONLY TO CORPORATE ISSUERS:

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 12, 2003
Common Stock Outstanding 30,074,481

HARVARD BIOSCIENCE, INC.
Form 10-Q
For the Quarter Ended June 30, 2003

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PART I. FINANCIAL INFORMATION

Item 1. Consolidated Financial Statements.

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

	6/30/03	12/31/02
Current assets:		
Cash and cash equivalents	$ 9,186	$ 15,313
Trade accounts receivable, net	15,640	13,917
Other receivables and other assets	477	478
Inventories	19,894	15,467
Catalog costs	86	283
Prepaid expenses	1,581	1,883
Deferred tax assets	858	1,073
Total current assets	47,722	48,414
Property, plant and equipment, net	6,306	5,918
Other assets:		
Deferred tax asset	1,101	669
Goodwill and other indefinite lived intangibles	34,623	31,140
Amortizable intangible assets	25,533	20,206
Other assets	1,185	1,237
Total other assets	62,442	53,252
Total assets	$ 116,470	$ 107,584
Current liabilities:		
Note payable	$ 6,000	—
Current installments of long-term debt	551	$ 699
Trade accounts payable	6,997	5,525
Deferred revenue	1,730	1,459
Accrued income taxes payable	1,577	1,151
Accrued expenses	4,583	7,362
Other liabilities	1,193	403
Total current liabilities	22,631	16,599
Long-term debt, less current installments	58	400
Deferred income tax liabilities	924	930
Other liabilities	1,348	1,274
Total long-term liabilities	2,330	2,604
Total liabilities	$ 24,961	$ 19,203
Stockholders' equity:		
Common stock, par value $.01 per share, 80,000,000 shares authorized; 34,723,523 and 34,692,050 shares issued and 30,062,739 and 30,031,266 shares outstanding at June 30, 2003 and December 31, 2002, respectively	347	347
Additional paid-in-capital	172,015	171,622
Accumulated other comprehensive income	2,156	894
Note receivable from officer	(1,011)	(963)
Accumulated deficit	(81,330)	(82,851)

Treasury stock, 4,660,784 common shares, at cost	(668)	(668)
Total stockholders' equity	91,509	88,381
Total liabilities and stockholders' equity	$ 116,470	$ 107,584

See accompanying notes to unaudited consolidated financial statements.

HARVARD BIOSCIENCE, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS
(unaudited)
(in thousands, except per share amounts)

	Three Months Ended		Six Months Ended	
	2003	2002	2003	2002
Product revenues	$ 22,099	$ 13,240	$ 41,325	$ 24,893
Research revenues	254	489	501	799
Total revenues	22,353	13,729	41,826	25,692
Cost and expenses:				
Cost of product revenues	10,935	6,657	20,570	12,405
General and administrative expense	2,877	2,134	5,701	4,032
Sales and marketing expense	3,893	1,808	7,494	3,297
Research and development expense	1,666	1,007	3,086	2,024
Stock compensation expense	134	331	281	655
Amortization of intangibles	729	307	1,353	612
Operating income	2,119	1,485	3,341	2,667
Other income (expense):				
Foreign currency gain (loss)	(143)	173	(30)	129
Interest expense	(85)	(85)	(124)	(90)
Interest income	32	177	98	277
Other	(832)	(24)	(864)	(34)
Other income (expense), net	(1,028)	241	(920)	282
Income before income taxes	1,091	1,726	2,421	2,949
Income taxes	348	708	900	1,158
Net income	$ 743	$ 1,018	$ 1,521	$ 1,791
Net income per share:				
Basic and diluted	$ 0.02	$ 0.04	$ 0.05	$ 0.07
Weighted average common shares:				
Basic	30,232	26,483	30,065	26,470
Diluted	30,731	26,998	30,459	27,061

See accompanying notes to unaudited consolidated financial statements.

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

	Six Months Ended June 30,	
	2003	2002
Cash flows from operating activities:		
Net income	$ 1,521	$ 1,791
Adjustments to reconcile net income to net cash provided by operating activities:		
Stock compensation expense	281	655
Depreciation	1,080	455
Amortization of catalog costs	213	219
Provision for bad debts	56	2
Amortization of other intangibles	1,353	612
Deferred income taxes	(217)	(539)
Changes in operating assets and liabilities, net of effects of business acquisitions:		
Accounts receivable	(271)	(1,761)
Other receivables	—	640

Inventories	(1,003)	(307)
Prepaid expenses and other assets	1,003	(331)
Other assets	(58)	(143)
Trade accounts payable	696	(53)
Accrued income taxes payable	318	400
Deferred revenue	(655)	126
Accrued expenses	(3,375)	(560)
Other liabilities	140	(286)
Net cash provided by operating activities	1,082	920
Cash flows from investing activities:		
Additions to property, plant and equipment	(503)	(677)
Additions to catalog costs	(14)	(164)
Acquisition of businesses, net of cash acquired	(12,674)	—
Net cash used in investing activities	(13,191)	(841)
Cash flows from financing activities:		
Repayment of notes receivable from officers	—	886
Proceeds from note payable	6,000	—
Repayments of short-term debt	—	(3,245)
Repayments of long-term debt	(507)	(550)
Net proceeds from issuance of common stock	67	125
Net cash provided by (used in) financing activities	5,560	(2,784)
Effect of exchange rate changes on cash and cash equivalents	422	344
(Decrease) increase in cash and cash equivalents	(6,127)	(2,361)
Cash and cash equivalents at beginning of period	15,313	29,386
Cash and cash equivalents at end of period	9,186	$ 27,025
Supplemental disclosures of cash flow information:		
Cash paid for interest	$ 124	$ 91
Cash paid for income taxes	$ 777	$ 723

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 the Company and its wholly-owned subsidiaries as of June 30, 2003, and for the three and six month periods ended June 30, 2003 and June 30, 2002, have been prepared in accordance with accounting principles generally accepted in the United States of America and include all adjustments which, in the opinion of management, are necessary to present fairly the results of operations for the periods then ended. All such adjustments are of a normal recurring nature. These unaudited consolidated financial statements should be read in conjunction with the consolidated financial statements for the year ended December 31, 2002 and the notes thereto included in the Company's Annual Report on Form 10-K filed with the Securities and Exchange Commission ("SEC").

The results of operations for any interim period are not necessarily indicative of the results of operations for a full fiscal year.

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, 2002, filed with the SEC.

2. Recently Issued Accounting Pronouncements

In January 2003, the Financial Accounting Standards Board ("FASB") issued Interpretation No. 46, *Consolidation of Variable Interest Entities, an interpretation of ARB No. 51*. This Interpretation addresses the consolidation by business enterprises of variable interest entities as defined in the Interpretation. The Interpretation applies immediately to variable interests in variable interest entities created after January 31, 2003, and to variable interests in variable interest entities obtained after January 31, 2003. For public enterprises with a variable interest in a variable interest entity created before February 1, 2003, the Interpretation applies to that enterprise no later than the beginning of the first interim or annual reporting period beginning after June 15, 2003. The application of this Interpretation did not have a material impact on the Company's consolidated results of operations or financial position.

In November, 2002, the Emerging Issues Task Force ("EITF") reached a consensus on Issue No. 00-21, *Revenue Arrangements with Multiple Deliverables*. EITF Issue No. 00-21 addresses the accounting, by a vendor, for contractual arrangements in which multiple revenue-generating activities will be performed by the vendor. The Issue addresses when and, if so, how an arrangement involving multiple deliverables should be divided into separate units of accounting. The Issue also addresses how the arrangement consideration should be measured and allocated to the separate units of accounting in the

arrangement. This Issue otherwise does not change applicable revenue recognition criteria. Companies are required to adopt this consensus for fiscal periods beginning after June 15, 2003. Companies may apply this consensus prospectively to new arrangements initiated after the date of adoption or as a cumulative catch adjustment. Early adoption of the consensus is permitted. We are currently evaluating the effects of adopting the provisions of the EITF's consensus on this Issue.

In May 2003, the FASB issued Statement No. 150, *" Accounting for Certain Financial Instruments with Characteristics of Both Liabilities and Equity."* This Statement requires that certain instruments that were previously classified as equity on a company's statement of financial position now be classified as liabilities. The Statement is effective for financial instruments entered into or modified after May 31, 2003, and otherwise is effective at the beginning of the first interim period beginning after June 15, 2003. We do not expect that the adoption of this Statement will have a material impact on our consolidated results of operations or financial position.

3. Acquisitions

On January 31, 2003, the Company acquired substantially all the assets of the BTX division of Genetronics Biomedical Corporation for $4.1 million in cash (including $0.4 million in acquisition related costs). The results of operations have been included in the consolidated financial statements since the date of acquisition. BTX designs, develops, manufactures and distributes electroporation products. The Company has not finalized the allocation of the purchase price as of June 30, 2003. A preliminary estimate of the allocation was prepared and included as part of these consolidated financial statements as the fair value valuation of assets and liabilities acquired has not yet been completed. The preliminary estimated allocation of the purchase price is as follows: $2.7 million to existing technology, current assets of $1.3 million, $0.1 million to property, plant and equipment, $0.1 to goodwill and other indefinite lived intangibles and liabilities assumed of $0.1 million.. We anticipate that the fair value valuation of the assets and liabilities acquired will be completed during the third quarter of 2003.

On March 12, 2003, the Company, through its Genomic Solutions subsidiary, acquired substantially all of the assets of Genomic Instrumentation Services, d/b/a/ GeneMachines for $8.6 million in cash (including $0.3 million in acquisition related expenses). The acquisition was partially funded by a $6.0 million bridge loan entered into on March 12, 2003, with Brown Brothers Harriman and Co. The bridge loan is in the form of a demand promissory note which bears a variable annual interest rate based on the bank's base rate, which at June 30,2003 was 4.0%. The results of operations have been included in the consolidated financial statements since the date of acquisition. GeneMachines designs, develops, manufactures and distributes high throughput instrumentation for DNA and protein microarray production, nucleic acid sample preparation and DNA synthesis. It is anticipated that the acquisition of GeneMachines will strengthen the Company's genomic product offering and when coupled with genomic product line of the Company's Genomic Solutions subsidiary, will provide a complementary set of products in the DNA microarray systems and instrumentation market.

The Company has not finalized the allocation of the purchase price as of June 30, 2003. A preliminary estimate of the allocation was prepared and included as part of these consolidated financial statements as the fair value valuation of assets and liabilities acquired has not yet been completed. We anticipate that the fair value valuation of the assets and liabilities acquired will be completed during the third quarter of 2003. The preliminary estimated allocation of the aggregate purchase price of $8.6 million is as follows:

(in thousands)		
Current assets	$	2,959
Property, plant and equipment		756
Long-term assets		45
Goodwill and other indefinite lived intangibles		3,052
Amortizable intangible assets		3,719
Total assets acquired	$	10,531
Current liabilities	$	(1,980)
Total liabilities assumed		(1,980)
Net assets acquired	$	8,551

The $3.7 million of acquired intangible assets was allocated to existing products and technology. In the first half of 2003, $219,000 of fair value adjustments related to GeneMachines' backlog and inventory was expensed through cost of goods sold for orders that were sold since the date of the acquisition.

4. Goodwill and Other Intangible Assets

On January 1, 2002, the Company adopted SFAS No. 142, *"Goodwill and Other Intangible Assets."* As a result of the adoption, goodwill and other indefinite-lived intangible assets are no longer being amortized, but are subject to annual impairment reviews, or more frequently, if events or circumstances indicate there may be an impairment. On December 31, 2002, the Company completed its goodwill impairment test and concluded there was no impairment.

Goodwill and intangible assets consist of the following:

	June 30, 2003		December 31, 2002	
(in thousands)	Gross Carrying Value	Accumulated Amortization	Gross Carrying Value	Accumulated Amortization
Amortizable intangible assets:				
Existing technology	$ 27,495	$ 3,348	$ 20,785	$ 2,020
Tradename	1,703	325	1,702	269
Patents	9	1	9	1
Total Amortizable Intangible Assets	$ 29,207	$ 3,674	$ 22,496	$ 2,290

Unamortizable intangible assets:				
Goodwill and other indefinite lived intangibles	$ 34,623	$ —	$ 31,140	$ —
Total Goodwill and Intangible Assets	$ 63,830	$ 3,674	$ 53,636	$ 2,290

The Company acquired amortizable intangible assets estimated at approximately $2.8 million in connection with the acquisition of BTX on January 31, 2003 and intangible assets of approximately $6.8 million in connection with the acquisition of GeneMachines on March 12, 2003, consisting of approximately $3.7 million of amortizable assets and $3.1 million of goodwill (including approximately $0.3 million of acquisition related expenses). Intangible asset amortization expense was $729,000 and $1,353,000 for the three and six months ended June 30, 2003, respectively. Amortization expense of existing amortizable intangible assets is estimated to be $2.8 million for the year ending December 31, 2003 and $2.9 million for each of the years ending December 31, 2004, 2005, 2006, 2007 and 2008.

5. Stock Based Compensation

The Company applies the intrinsic-value-based method of accounting prescribed by Accounting Principles Board (APB) Opinion No. 25, *Accounting for Stock Issued to Employees*, and related interpretations including Financial Accounting Standards Board ("FASB") Interpretation No. 44, *Accounting for Certain Transactions involving Stock Compensation, an interpretation of APB Opinion No. 25*, issued in March 2000, to account for its fixed-plan stock options. Under this method, compensation expense is recorded, using the graded method, on the date of grant only if the current market price of the underlying stock exceeds the exercise price and the number of stock options is fixed. SFAS No. 148, *Accounting for Stock-Based Compensation Transition and Disclosure*, an amendment of FASB Statement No. 123, provides alternative methods of transition for a voluntary change to the fair-value-based method of accounting for stock-based employee compensation plans under SFAS No. 123, *Accounting for Stock Based Compensation*, and amends the disclosure requirements of SFAS No. 123. As allowed by SFAS No. 148 and 123, the Company has elected to continue to apply the intrinsic-value-based method of accounting described above, and has adopted only the disclosure requirements of SFAS No. 148.

The following table illustrates the effect on net income if the fair-value-based method had been applied to all outstanding awards in each period:

(in thousands, except per share data)	Three Months Ended		Six Months Ended	
	June 30, 2003	June 30, 2002	June 30, 2003	June 30, 2002
Net income available to common stockholders, as reported	$ 743	$ 1,018	$ 1,521	$ 1,791
Add: stock-based employee compensation expense included in reported net income, net of tax	134	331	281	655
Deduct: total stock-based employee compensation expense determined under fair-value based method for all awards, net of tax	(916)	(1,275)	(1,890)	(2,457)
Pro forma net loss	$ (39)	$ 74	$ (88)	$ (11)
Basic net income per share as reported	$ 0.02	$ 0.04	$ 0.05	$ 0.07
Pro forma basic net loss per share	$ 0.00	$ 0.00	$ 0.00	$ 0.00
Diluted net income per share as reported	$ 0.02	$ 0.04	$ 0.05	$ 0.07
Pro forma diluted net loss per share	$ 0.00	$ 0.00	$ 0.00	$ 0.00

The fair value of each option grant for the Company's Plans is estimated on the date of the grant using the Black-Scholes pricing model.

6. Income Per Share

Basic income per share is based upon net income divided by the number of weighted average common shares outstanding during the period. The calculation of diluted net income per share assumes conversion of stock options 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:

(in thousands)	Three Months Ended June 30,		Six Months Ended June 30,	
	2003	2002	2003	2002
Weighted average common shares outstanding (basic)	30,232	26,483	30,065	26,470
Weighted average common equivalent shares due to stock options	499	515	394	591
Weighted average common shares outstanding (diluted)	30,731	26,998	30,459	27,061

Options to purchase 1,069,489 and 1,023,494shares of common stock were outstanding as of June 30, 2003 and June 30, 2002, respectively, but were not included in the calculation of diluted earnings per share because the options' exercise prices were greater than the average market price of the common shares and, therefore, the effect would be antidilutive.

7. Inventories

Inventories consist of the following:

(in thousands)	June 30, 2003	December 31, 2002
Finished goods	$ 7,161	$ 6,057
Work in process	3,465	1,879
Raw materials	9,268	7,531
	$ 19,894	$ 15,467

8. Accounts Receivable

Accounts receivable consists of the following:

(in thousands)	June 30,	December 31,

	2003	2002
Trade accounts receivable	$ 15,840	$ 14,061
Allowance for doubtful accounts	(200)	(144)
	$ 15,640	$ 13,917

9. Comprehensive Income

Accumulated other comprehensive income, a component of stockholders' equity, consists solely of foreign currency translation adjustments as of June 30, 2002. As of June 30, 2003, accumulated other comprehensive income consists of foreign currency translation adjustments of approximately $3.0 million and a minimum additional pension liability of approximately $0.8 million. The components of total comprehensive income were as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
(in thousands)	2003	2002	2003	2002
Net income	$ 743	$ 1,018	$ 1,521	$ 1,791
Other comprehensive income	1,453	1,629	1,262	1,211
Comprehensive income	$ 2,196	$ 2,647	$ 2,783	3,002

10. Stockholders' Equity

In September 2000, Mr. Graziano, the Company's Chief Executive Officer, and Mr. Green, the Company's President, each exercised options to purchase 740,228 shares of the Company's common stock. Each of these officers paid substantially all the exercise price for these shares by issuing promissory notes to the Company. The aggregate loan to Mr. Graziano was $789,000 and to Mr. Green was $789,000 pursuant to these promissory notes. In February 2002, Mr. Green satisfied his promissory notes in full by payment to the Company of the principal amount of the notes and accrued interest.

11. Legal Proceedings

On February 4, 2002, Paul D. Grindle, the former owner of Harvard Apparatus, Inc., initiated an arbitration proceeding against us and certain directors before JAMS in Boston, Massachusetts. Mr. Grindle's claims arise out of post-closing purchase price adjustments related to our purchase of the assets and business of Harvard Apparatus by virtue of an Asset Purchase Agreement dated March 15, 1996 and certain related agreements. In the arbitration demand, Mr. Grindle sought the return of 1,563,851 shares of common stock in Harvard Bioscience, or the disgorgement of the profits of our sale of the stock, as well as compensatory damages and multiple damages and attorney's fees under Mass. Gen. Laws, chapter 93A. In a demand letter that was attached to the arbitration demand, Mr. Grindle asserted losses in the amount of $15 million, representing the value of the 1,563,851 shares of Harvard Bioscience's stock as of January 2, 2002. On October 30, 2002, we received a decision from the arbitrator that we have prevailed on all claims asserted against us and certain of our directors in the arbitration action. Specifically, we received a written decision from the arbitrator granting our motion for summary disposition with respect to all claims brought against all parties in the action. We have filed a complaint in the Massachusetts Superior Court seeking to confirm the arbitrator's decision. Mr. Grindle filed a complaint in the Massachusetts Superior Court seeking to vacate the arbitrator's decision. These two matters were consolidated. On or about July 30, 2003 the Massachusetts Superior Court granted our motion to confirm the arbitrator's decision and to deny Mr. Grindle's motion to vacate.

On May 30, 2002, the Company served a claim notice (the "Claim Notice") on the former shareholders of Union Biometrica (the "Former Shareholders"), seeking indemnification in connection with the May 31, 2001 Merger Agreement that effectuated the Company's acquisition of Union Biometrica. The Claim Notice had the effect of withholding the release of certain Company shares placed in escrow as part of the merger consideration to the Former Shareholders. On September 5, 2002, the Former Shareholders served a Demand for Arbitration on the Company which essentially set forth defenses against the indemnification claims asserted in the Claim Notice, alleged that the Company did not have an adequate basis for its Claim Notice and asserted that the Former Shareholders could be harmed by a decline in value of the escrowed shares as a result of the Company's failure to release the escrowed shares. A hearing was held by an arbitrator in late April and early May, 2003. On July 15, 2003, the Company received the arbitrator's award (the "Award") in favor of the Former Shareholders. The arbitrator ruled that the Company must release 474,420 Company shares held in escrow to the Former Shareholders and also must pay the Former Shareholders an amount estimated to be approximately $700,000 which represents the difference between the market value of 322,875 Company shares held in escrow as of May 31, 2002, and the market value of those shares as of the date those shares are released, calculated as prescribed by the escrow agreement. This one-time charge and certain related costs, totaling approximately $815,000 is reflected in the Company's financial results for the second quarter of 2003. The Award is currently still pending as each party is seeking certain corrections thereto and is not yet final.

In September, 2002, our Genomic Solutions subsidiary filed suit against Affymetrix, Inc. in the State of Michigan Circuit Court for the County of Washtenaw for breach of contract, negligent/innocent misrepresentation, tortuous interference with prospective economic advantage and declaratory relief. The action arose out of a License Agreement that Genomic Solutions entered into with Affymetrix with respect to certain Affymetrix patent rights. In November 2002, Affymetrix filed a counter-claim against Genomic Solutions alleging breach of contract and requesting approximately $1.45 million in damages for license and other fees and interest allegedly owed. On April 30, 2003, Affymetrix was granted summary disposition and Genomic Solutions' claims were dismissed. In June 2003 the Company settled this claim and paid $1.3 million to Affymetrix

In December, 2002, Oxford Gene Technology Ltd. filed suit against our Genomic Solutions subsidiary, Mergen Ltd., Clontech Laboratories, Inc., PerkinElmer Life Sciences, Inc., Axon Instruments, Inc. and BioDiscovery, Inc. in the United States District Court for the District of Delaware seeking unspecified damages as a result of alleged infringement by each of the defendants of a United States Patent issued to Oxford Gene Technology. On May 12, 2003, the Company and Oxford Gene Technology settled the dispute and the lawsuit will be dismissed. Under the settlement, Genomic Solutions will display certain notices in connection with the marketing of certain genomic-related products. In addition, a nominal amount is being paid to Oxford Gene Technology.

In addition, from time to time, we may be involved in various claims and legal proceedings arising in the ordinary course of business. Except as disclosed above, we are not currently a party to any such claims or proceedings, which, if decided adversely to us, would either individually or in the aggregate have material adverse effect on our business, financial condition or results of operations.

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

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 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 our expected research and development spending, the impact of acquisitions on future earnings, the effect of our technology on the drug development process, our intention to strengthen our market position, management's confidence or expectations, our business strategy, our positioning for growth, our ability to reduce the risk of being dependent on a single technology, our ability to avoid competition with major instrument companies, our acquisition strategy (including our ability to accelerate the growth of acquired products and to leverage our infrastructure and expertise and the availability of attractive acquisition candidates), the market demand and opportunity for our products, our estimates regarding our capital requirements, the anticipated closing of a definitive agreement for a revolving credit facility, the timing of future product introductions, our expectations in connection with current litigation (including inferences about the finality of the arbitrator's decision in the Grindle matter and the Union Biometrica matter and the appeal of or other challenge to these decisions), 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," "expects," "plans," "anticipates," "believes," "estimates," "projects," "predicts," "intends," "potential" 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. We discuss many of these risks in detail under the heading "Important Factors That May Affect Future Operating Results" beginning on page 18 of this Quarterly Report on Form 10-Q. You should carefully review all of these factors, as well as other risks described in our public filings, and you should be aware that there may be other factors, including factors of which we are not currently aware, that could cause these differences. Also, these forward-looking statements represent our estimates and assumptions only as of the date of this report. 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.

Harvard Bioscience, a Delaware corporation, is a global developer, manufacturer and marketer of a broad range of specialized products, primarily scientific instruments, used to accelerate drug discovery research at pharmaceutical and biotechnology companies, universities and government laboratories worldwide. We sell our products to thousands of researchers in over 100 countries through our direct sales force, our 1,000 page catalog (and various other specialty catalogs), and through distributors, including Amersham Biosciences and PerkinElmer. We have sales and manufacturing operations in the United States, the United Kingdom, Germany, Austria and Belgium with sales facilities in Japan, France and Canada.

Our strategy is to have a broad range of specialized products (currently over 20,000) in strong positions in niche markets focused on the bottlenecks in drug discovery research:

- By having a broad product line we believe we reduce the risk of being dependent on a single technology in an industry characterized by very rapid technological change;
- By having specialized products in niche markets we seek to reduce head-to-head competition with the major instrument companies; and
- By focusing on the bottlenecks we believe we position ourselves for above average revenue growth and above average margins.

We grow this range of products through internal development of new products, acquisitions and strategic partnerships with both pharmaceutical companies (for new product development) and other major life science companies (for expanded distribution).

We use acquisitions to expand our product line 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 at acquired companies.

These products are marketed and sold through one of our three well-established global distribution channels. These are:

- For products primarily priced under $10,000: the Harvard Apparatus catalog, a name respected for innovation and quality for over 100 years
- For well-established products primarily priced in the $5,000 to $35,000 range: distribution relationships with major life science companies such as Amersham Biosciences and PerkinElmer
- For innovative products primarily priced over $25,000: our own global field sales force

In providing tools for drug discovery, we have established a significant base business and have achieved strong brand recognition. Since 1996, we have built upon our base business and brand recognition by adding new technologies in the areas of target validation, high throughput screening, sample preparation, assay development and ADMET screening.

Critical Accounting Policies

Our critical accounting policies are as follows:

- valuation of identifiable intangible assets and in process research and development in business combinations;
- valuation of long-lived and intangible assets and goodwill;
- accounting for income taxes;
- revenue recognition; and
- inventory.

Valuation of identifiable intangible assets in business combinations. Identifiable intangible assets consist primarily of trademarks and acquired technology. Such intangible assets arise from the allocation of the purchase price of businesses acquired to identifiable intangible assets based on their respective fair

market value. Amounts assigned to such identifiable intangible assets are primarily based on independent appraisals using established valuation techniques and management estimates. The value assigned to trademarks was determined by estimating the royalty income that would be negotiated at an arm's-length transaction if the asset were licensed from a third party. A discount factor, ranging from 25% to 31.5%, which represents both the business and financial risks of such investments, was used to determine the present value of the future streams of income attributable to trademarks. The specific approach used to value trademarks was the Relief from Royalty ("RFR") method. The RFR method assumes that an intangible asset is valuable because the owner of the asset avoids the cost of licensing that asset. The royalty savings are then calculated by multiplying a royalty rate times a determined royalty base, i.e., the applicable level of future revenues. In determining an appropriate royalty rate, a sample of guideline, arm's length royalty and licensing agreements are analyzed. In determining the royalty base, forecasts are used based on management's judgments of expected conditions and expected courses of actions. The value assigned to acquired technology was determined by using a discounted cash flow model which measures what a buyer would be willing to pay currently for the future cash stream potential of existing technology. The specific method used to value the technologies involved estimating future cash flows to be derived as a direct result of those technologies, and discounting those future streams to their present value. The discount factors used, ranging from 25% to 36%, reflects the business and financial risks of an investment in technologies. Forecasts of future cash flows are based on managements' judgment of expected conditions and expected courses of action.

Valuation of in-process research and development in business combinations. Purchase price allocation to in-process research and development represents the estimated fair value of research and development projects that are reasonably believed to have no alternative future use. The value assigned to in-process research and development was determined by independent appraisals by estimating the cost to develop the purchased in-process research and development into commercially feasible products, estimating the percentage of completion at the acquisition date, estimating the resulting net risk-adjusted cash flows from the projects and discounting the net cash flows to their present value. The discount rates used in determining the in-process research and development expenditures reflects a higher risk of investment because of the higher level of uncertainty due in part to the nature of the Company and the industry to constantly develop new technology for future product releases and ranged from 25% to 43.5%. The forecasts used by the Company in valuing in-process research and development were based on assumptions the Company believed at the time to be reasonable, but which are inherently uncertain and unpredictable. Given the uncertainties of the development process, no

assurance can be given that deviations from the Company's estimates will occur and no assurance can be given that the in-process research and development projects identified will ever reach either technological or commercial success.

Valuation of long-lived and intangible assets and goodwill. In accordance with the provisions of Statement of Financial Accounting Standards (SFAS) No. 144, *Accounting for the Impairment or Disposal of Long-Lived Assets*, we assess the impairment of identifiable intangibles with finite lives and long-lived assets whenever events or changes in circumstances indicate that the carrying value may not be recoverable. Factors we consider important which could trigger an impairment review include the following: significant underperformance relative to expected historical or projected future operating results; significant changes in the manner of our use of the acquired assets or the strategy for our overall business; significant negative industry or economic trends; significant changes in who our competitors are and what they do; significant changes in our relationship with Amersham Biosciences; significant decline in our stock price for a sustained period; and our market capitalization relative to net book value.

If we were to determine that the value of long-lived assets and identifiable intangible assets with finite lives was not recoverable based on the existence of one or more of the aforementioned factors, then the recoverability of those assets to be held and used would be measured by a comparison of the carrying amount of those assets to undiscounted future net cash flows expected to be generated by those assets. If such assets are considered to be impaired, the impairment to be recognized would be measured by the amount by which the carrying value of the assets exceeds the fair value of the assets. Assets to be disposed of are reported at the lower of the carrying amount or fair value less costs to dispose.

In June 2001, SFAS No. 142, *Goodwill and Other Intangible Assets* was issued. SFAS No. 142 addresses financial accounting and reporting for acquired goodwill and other intangible assets. Among other things, SFAS No. 142 requires that goodwill and intangible assets with indefinite useful lives no longer be amortized, but rather tested annually for impairment or more frequently if events or circumstances indicate that there may be an impairment. The impairment test consists of a comparison of the fair value of the Company's reporting units with their carrying amount. If the carrying amount exceeds its fair value, the Company is required to perform the second step of the impairment test, as this is an indication that goodwill may be impaired. The impairment loss is measured by comparing the implied fair value of the reporting unit's goodwill with its carrying amount. If the carrying amount exceeds the implied fair value, an impairment loss shall be recognized in an amount equal to the excess. After an impairment loss is recognized, the adjusted carrying amount of the intangible asset shall be its new accounting basis. Subsequent reversal of a previously recognized impairment loss is prohibited. In accordance with SFAS No. 142, the Company performed its annual impairment test on December 31, 2002, which did not indicate any impairment.

Accounting for income taxes. We are required to determine our annual income tax provision in each of the jurisdictions in which we operate. This involves determining our current and deferred income tax expense as well as accounting for differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. The future tax consequences attributable to these differences result in deferred tax assets and liabilities, which are included in our consolidated balance sheet. We must assess the recoverability of the deferred tax assets by considering whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. To the extent we believe that recovery does not meet this "more likely than not" standard as required in SFAS No. 109, *Accounting for Income Taxes*, we must establish a valuation allowance. If a valuation allowance is established or increased in a period, we must allocate the related income tax expense to income from continuing operations in the consolidated statement of operations to the extent those deferred tax assets originated from continuing operations. To the extent income tax benefits are allocated to stockholders' equity, the related valuation allowance also must be allocated to stockholders' equity.

Management judgment is required in determining our income tax provision, deferred tax assets and liabilities and any valuation allowance recorded against net deferred tax assets. At June 30, 2003, we have established a valuation allowance attributable to certain acquisition-related temporary differences as we believe that a portion of the deferred tax assets at June 30, 2003 will not meet the "more likely than not" standard for realization in the carryback and carryforward periods based on the criteria set forth in SFAS No. 109, *Accounting for Income Taxes.* We review the recoverability of deferred tax assets during each reporting period.

Revenue recognition. The Company recognizes revenue from product sales generally upon shipment or installation, if applicable, provided that persuasive evidence of an arrangement exists, the sales price is fixed or determinable, collectability is reasonably assured and title and risk of loss have passed to the customer. The Company has no obligations to customers after the date products are shipped or installed, if applicable, other than pursuant to warranty

obligations. The Company provides for the estimated costs to fulfill customer warranty obligations upon the recognition of the related revenue. The Company provides for the estimated amount of future returns upon shipment of products or installation, if applicable, based on historical experience. While product returns and warranty costs have historically not been significant, they have been within our expectations and the provisions established, however, there is no assurance that we will continue to experience the same return rates and warranty repair costs that we have in the past. Any significant increase in product return rates or a significant increase in the cost to repair our products could have a material adverse impact on our operating results for the period or periods in which such returns or increased costs materialize. The Company makes estimates evaluating its allowance for doubtful accounts. On an ongoing basis, the Company monitors collections and payments from its customers and maintains a provision for estimated credit losses based upon our historical experience and any specific customer collection issues that we have identified. While such credit losses have historically not been significant, they have been within our expectations and the provisions established, however, there is no assurance that we will continue to experience the same credit loss rates that we have in the past. A significant change in the liquidity or financial position of our customers could have a material adverse impact on the collectability of our accounts receivable and our future operating results.

Inventory. The Company values its inventory at the lower of the actual cost to purchase (first-in, first-out method) and/or manufacture the inventory or the current estimated market value of the inventory. The Company regularly reviews inventory quantities on hand and records a provision to write down excess and obsolete inventory to its estimated net realizable value if less than cost, based primarily on its estimated forecast of product demand. Since forecasted product demand quite often is a function of previous and current demand, a significant decrease in demand could result in an increase in the charges for excess inventory quantities on hand. In addition, the Company's industry is subject to technological change and new product development, and technological advances could result in an increase in the amount of obsolete inventory quantities on hand. Therefore, any significant unanticipated changes in demand or technological developments could have a significant adverse impact on the value of the Company's inventory and its reported operating results.

Results of Operations

Three months ended June 30, 2003 compared to three months ended June 30, 2002:

Revenues. Revenues increased $8.6 million, or 63%, to $22.4 million in the second quarter of 2003 from $13.7 million for the same period in 2002. Approximately $9.1 million, or 41% of our revenues for the three month period ended June 30, 2003, represented the acquired revenues, the revenue stream of the acquired companies prior to acquisition, for the acquisitions made since the second quarter of 2002. Given the uncertainty of the current economic environment we are unable to determine whether the decrease in organic revenues of approximately $500,000 compared to the same period of 2002 is a trend that is likely to continue. Revenues for the second quarter of 2003 would have been approximately $21.5 million if our sales denominated in foreign currencies were translated into U.S. dollars using 2002 exchange rates, an increase of approximately 57% over the same period in 2002.

Cost of product revenue. Cost of product revenues increased $4.3 million or 64%, to $10.9 million in the second quarter of 2003 from $6.7 million for the second quarter of 2002. As a percentage of product revenues, cost of product revenues for the second quarter of 2003 was approximately 49% compared to approximately 50% for the second quarter of 2002. For the second quarter of 2003, cost of product revenues included approximately $205,000 of expensed fair value adjustments for inventory and backlog acquired with the acquisitions of Genomic Solutions, BTX, and GeneMachines, related to the orders sold in the second quarter of 2003. Without these expenses, cost of product revenues as a percentage of product revenues, for the second quarter of 2003 was approximately 49%.

General and administrative expense. General and administrative expense increased $743,000 or 35%, to $2.9 million in the second quarter of 2003 from $2.1 million for the same period in 2002 due primarily to acquisitions. As a percentage of revenues, general and administrative expense was 12.9% in the second quarter of 2003 compared to 15.5% for the same period in 2002. This decrease ias a percentage of revenues is the result of general and administrative expenses not increasing at the same rate as revenues, since many general and administrative expenses by their nature are not directly variable as revenues change, but in some ways are fixed expenses.

Sales and marketing expense. Sales and marketing expense increased $2.1 million, or 115%, to $3.9 million in the second quarter of 2003 from $1.8 million in the second quarter of 2002. Approximately $2.2 million of the increase directly relates to the acquisitions made since the second quarter of 2002. As a percent of revenue, sales and marketing

spending increased from approximately 13% in the second quarter of 2002 to approximately 17% in the second quarter of 2003. This increase is due primarily to the October 2002 acquisition of Genomic Solutions, which experiences higher costs as a percentage of revenues compared to the percentage experienced by the Company prior to the acquisition of Genomic Solutions. This is due to the higher costs associated with using a direct sales force compared to the costs associated with catalog and distributor sales the Company has historically experienced.

Research and development expense. Research and development spending, which includes expenses related to research revenues, was $1.7 million in the second quarter of 2003. Excluding research and development programs at businesses acquired during 2002 and 2003, research and development spending in the second quarter of 2003 was approximately $897,000 compared to $1.0 million for the same period in 2002. This decrease of approximately $100,000 is due primarily to the restructuring at our Union Biometrica subsidiary during the third quarter of 2002 and due to the timing of spending for projects. As a percentage of revenues, research and development was 7.5% during the second quarter of 2003 compared to 7.3% for the same period in 2002.

Stock compensation expense. In the three months ended June 30, 2003, we recorded $134,000 of stock compensation expense, related to options granted prior to our initial public offering and to options issued in exchange for the outstanding options of Union Biometrica, in connection with the acquisition of Union Biometrica. In the three months ended June 30, 2002, we recorded stock compensation expense of approximately $331,000. We will recognize an aggregate of approximately $270,000 of additional expense over the remaining vesting life of the options.

Amortization of intangibles. Amortization of intangibles, including amortization of acquired technology, was $729,000 in the second quarter of 2003 compared to $307,000 in the second quarter of 2002. This increase is directly attributed to acquisitions made since the second quarter of 2002.

Other income (expense), net. Other expense for the three months ended June 30, 2003 of $1.0 million included approximately $815,000 in certain one time charges related to an arbitration award in favor of the former stockholders of Union Biometrica. Other expense for the second quarter of 2003 also included net interest expense of approximately $53,000 compared to net interest income of $92,000 for the second quarter of 2002. This shift from interest income to

interest expense is due to cash and interest bearing debt being used to fund acquisitions since the second quarter of 2002. Other expense for the second quarter of 2003 also included a $143,000 foreign exchange loss compared to a $173,000 gain for the same period last year. The majority of these exchange gains and losses are related to debt amongst our subsidiaries.

Income taxes. The Company's effective income tax rates were 31.90% for the second quarter of 2003 and 41.02% for the second quarter of 2002. The decrease in the effective income tax rate from 2002 to 2003 is principally due to the Company earning a smaller percentage of its total operating income in jurisdictions that have higher effective tax rates. Included in the calculation of the effective tax rate for the second quarter of 2003 are non-deductible stock compensation expense of $129,000 and non-deductible charges related to a one time arbitration award of $1,053,000. Included in the calculation of the effective tax rate for the second quarter of 2002 is $297,000 for non-deductible stock compensation expense.Before the effects of these non-tax deductible expenses, the Company's effective income tax rates were 32.96% for the second quarter of 2003 and 34.12% for the second quarter of 2002.

Six months ended June 30, 2003 compared to six months ended June 30, 2002:

Revenues. Revenues increased $16.1 million, or 63%, to $41.8 million in the six months ended June 30, 2003 from $25.7 million for the same period in 2002. Approximately $16.3 million, or 39% of our revenues for the six month period ended June 30, 2003, represented the acquired revenues, the revenue stream of the acquired companies prior to acquisition, for the acquisitions made since the six months ended June 30, 2002. Given the uncertainty of the current economic environment we are unable to determine whether the decrease in organic revenues of approximately $200,000 over the same period of 2002 is a trend that is likely to continue. Revenues for the six months ended June 30, 2003 would have been approximately $40.3 million if our sales denominated in foreign currencies were translated into U.S. dollars using 2002 exchange rates, an increase of approximately 57% over the same period in 2002.

Cost of product revenue. Cost of product revenues increased $8.2 million or 66%, to $20.6 million in the six months ended June 30, 2003 from $12.4 million for the six months ended June 30, 2002. As a percentage of product revenues, cost of product revenues for the six months ended June 30, 2003 was approximately the same as for the six months ended June 30, 2002 at 50%. For the six months ended June 30, 2003, cost of product revenues included approximately

$538,000 of expensed fair value adjustments for inventory and backlog acquired with the acquisitions of Genomic Solutions, BTX, and GeneMachines, related to the orders sold in the six months ended June 30 2003. Without these expenses, cost of product revenues as a percentage of product revenues, for the six months ended June 30 2003 was approximately 48%.

General and administrative expense. General and administrative expense increased $1.7 million or 41%, to $5.7 million in the six months ended June 30, 2003 from $4.0 million for the same period in 2002 due primarily to acquisitions. As a percentage of revenues, general and administrative expense was 13.6% in the six months ended June 30, 2003 compared to 15.7% for the same period in 2002. This decrease as a percentage of revenues, is the result of general and administrative expenses not increasing at the same rate as revenues since many general and administrative expenses by their nature are not directly variable as revenues change, but in some ways are fixed expenses.

Sales and marketing expense. Sales and marketing expense increased $4.2 million, or 127%, to $7.5 million in the six months ended June 30, 2003 from $3.3 million in the six months ended June 30, 2002. Approximately $4.1 million of the increase directly relates to the acquisitions made since the six months ended June 30, 2002. As a percent of revenue, sales and marketing spending increased from approximately 13% in the first six months of 2002 to approximately 18% in the first six months of 2003. This increase is due primarily to the October 2002 acquisition of Genomic Solutions, which experiences higher costs as a percentage of revenues compared to percentage experienced by the Company prior to the acquisition of Genomic Solutions. This is due to the higher costs associated with using a direct sales force compared to the costs associated with catalog and distributor sales the Company has historically experienced.

Research and development expense. Research and development spending, which includes expenses related to research revenues, was $3.1 million in the six months ended June 30, 2003. Excluding research and development programs at businesses acquired during 2002 and 2003, spending in the six months ended June 30, 2003 was approximately $1.7 million compared to $2.0 million for the same period in 2002. This decrease of approximately $300,000 is due primarily to the restructuring at our Union Biometrica subsidiary during the third quarter of 2002 and due to the timing of spending for projects. As a percentage of revenues, research and development was 7.4% during the six months ended June 30, 2003 compared to 7.9% for the same period in 2002.

Stock compensation expense. In the six months ended June 30, 2003, we recorded $281,000 of stock compensation expense, related to options granted prior to our initial public offering and to options issued in exchange for the outstanding options of Union Biometrica, in connection with the acquisition of Union Biometrica. In the six months ended June 30, 2002, we recorded stock compensation expense of approximately $655,000. We will recognize an aggregate of approximately $270,000 of additional expense over the remaining vesting life of the options.

Amortization of intangibles. Amortization of intangibles, including amortization of acquired technology, was $1.4 million in the six months ended June 30, 2003 compared to $612,000 in the six months ended June 30, 2002. This increase is directly attributed to acquisitions made since the six months ended June 30, 2002.

Other income (expense), net. Other expense for the six months ended June 30, 2003 of $920,000 included approximately $815,000 in certain one time charges related to an arbitration award in favor of the former stockholders of Union Biometrica. Other expense for the six months ended June 30, 2003 also included net interest expense of approximately $26,000 compared to net interest income of $187,000 for the same period of 2002. This shift from interest income to interest expense is due to cash and interest bearing debt being used to fund acquisitions since the second quarter of 2002. Other expense for the six months ended June 30, 2003 also included a $30,000 foreign exchange loss compared to a $129,000 gain for the same period last year. The majority of these exchange gains and losses are related to debt amongst our subsidiaries.

Income taxes. The Company's effective income tax rates were 37.17% for the six months ended June 30, 2003 and 39.27% for the six months ended June 30, 2002. The decrease in the effective income tax rate is principally due to the Company earning a smaller percentage of its total operating income in jurisdictions that have higher effective tax rates. Included in the calculation of the effective tax rate for the six months ended June 30, 2003 are non-deductible stock compensation expense of $259,000 and non-deductible charges related to a one time arbitration award of $1,053,000. Included in the calculation of the effective tax rate for the six months ended June 30, 2002 is $584,000 for non-deductible stock compensation expense. Before the effects of these non-tax deductible expenses, the Company's effective income tax rates were 35.99% for the six months ended June 30, 2003 and 34.28% for the six months ended June 30, 2002.

Liquidity and Capital Resources

Historically, we have financed our business through cash provided by operating activities, the issuance of common stock, preferred stock, and bank borrowings. Our liquidity requirements have arisen primarily from investing activities, including funding of acquisitions, payments on outstanding indebtedness, research and development expenditures and capital expenditures. As of June 30, 2003, we had cash and cash equivalents of $9.2 million, a decrease of $6.1 million from December 31, 2002 primarily due to funding the acquisition of BTX and partially funding the acquisition of GeneMachines. The balance of the purchase price for GeneMachines was funded by proceeds of a $6.0 million bridge loan entered into in March 2003 with Brown Brothers Harriman & Co. The Company entered into this bridge loan in anticipation of closing a revolving credit facility to be used to fund acquisitions, provide working capital, and for general corporate needs. We are currently negotiating a $25 million revolving credit facility instead of the originally planned $12 million facility. Also during the second quarter of 2003, $1.3 million in cash was used to settle a dispute between our subsidiary Genomic Solutions and Affymetrix. This amount was fully reserved for by Genomic Solutions on its balance sheet prior to our acquisition of Genomic Solutions.

During the first six months of 2003, our operating activities provided cash of $1.1 million compared to $920,000 for the same period in 2002. For the first six months of 2003, the $1.1 million of cash provided by operating activities, was net of the $1.3 million settlement paid to Affymetrix. For both periods operating cash flows were primarily due to profitable operating results, partially offset by working capital requirements.

Our investing activities used cash of $13.2 million for the first six months of 2003 and $841,000 for the first six months of 2002. In the first six months of 2003, investing activities primarily included cash used for the acquisitions of BTX and GeneMachines and, for the first six months of 2002 our investing activities primarily included cash for capital expenditures related to expanding and improving lease space for our Somerville, MA facility and outfitting our Geel, Belgium research lab.

During the first six months of 2003, financing activities provided net cash of $5.6 million compared to a use of cash of $2.8 million for the same period in 2002. In the first six months of 2003, we entered into a $6.0 million bridge loan with Brown Brothers Harriman & Co. In the first six months of 2002 financing activities consisted mainly of the repayment of $3.7 million in debt originating from the acquisition of Scie Plas Ltd. in November 2001 partially offset by proceeds of approximately $886,000 from the repayment of notes receivable from an officer.

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 operating plans, we expect that available cash, cash generated from operations and debt capacity will be sufficient to finance operations and capital expenditures for at least twelve months. However, we may be unable to reach agreement on the terms of the revolving credit facility and may be required to repay the $6.0 million bridge loan on less than favorable terms. In addition, we may use substantial amounts of capital to accelerate product development, expand our sales and marketing activities or make acquisitions. We may need to raise additional capital to the extent that we exhaust our available capital through these activities. Additional capital raising activities may dilute the ownership interests of existing stockholders to the extent we raise capital by issuing equity securities. Moreover, additional capital may not be available on acceptable terms or at all. Accordingly, there can be no assurance that we will be successful in raising additional capital.

Accounting Pronouncements

In January 2003, the FASB issued Interpretation No. 46, *Consolidation of Variable Interest Entities, an interpretation of ARB No. 51*. This Interpretation addresses the consolidation by business enterprises of variable interest entities as defined in the Interpretation. The Interpretation applies immediately to variable interests in variable interest entities created after January 31, 2003, and to variable interests in variable interest entities obtained after January 31, 2003. For public enterprises with a variable interest in a variable interest entity created before February 1, 2003, the Interpretation applies to that enterprise no later than the beginning of the first interim or annual reporting period beginning after June 15, 2003. The application of this Interpretation did not have a material impact on the Company's consolidated results of operations or financial position.

In November, 2002, the Emerging Issues Task Force ("EITF") reached a consensus on Issue No. 00-21, *Revenue Arrangements with Multiple Deliverables*. EITF Issue No. 00-21 addresses the accounting, by a vendor, for contractual arrangements in which multiple revenue-generating activities will be performed by the vendor. The Issue addresses when and, if so, how an arrangement involving multiple deliverables should be divided into separate units of accounting. The Issue also addresses how the arrangement consideration should be measured and allocated to the separate units of accounting in the arrangement. This Issue otherwise does not change applicable revenue recognition criteria. Companies are required to adopt this consensus for fiscal periods beginning after June 15, 2003. Companies may apply this consensus prospectively to new arrangements initiated after the date of adoption or as a cumulative catch adjustment. Early adoption of the consensus is permitted. We are currently evaluating the effects of adopting the provisions of the EITF's consensus on this Issue.

In May 2003, the FASB issued Statement No. 150, *" Accounting for Certain Financial Instruments with Characteristics of Both Liabilities and Equity."* This Statement requires that certain instruments that were previously classified as equity on a company's statement of financial position now be classified as liabilities. The Statement is effective for financial instruments entered into or modified after May 31, 2003, and otherwise is effective at the beginning of the first interim period beginning after June 15, 2003. We do not expect that the adoption of this Statement will have a material impact on our consolidated results of operations or financial position.

Important Factors That May Affect Future Operating Results

Our operating results may vary significantly from quarter to quarter depending on a number of factors, including:

If it engages in any acquisition, Harvard Bioscience will incur a variety of costs, and may never realize the anticipated benefits of the acquisition.

Harvard Bioscience's business strategy includes the future acquisition of businesses, technologies, services or products that it believes are a strategic fit with its business. If Harvard Bioscience does undertake any acquisition, the process of integrating an acquired business, technology, service or product may

result in unforeseen operating difficulties and expenditures and may absorb significant management attention that would otherwise be available for ongoing development of its business. Moreover, Harvard Bioscience may fail to realize the anticipated benefits of any acquisition as rapidly as expected or at all. Future acquisitions could reduce stockholders' ownership, cause Harvard Bioscience to incur debt, expose it to future liabilities and result in amortization expenses related to intangible assets with definite lives.

Current negative economic trends may adversely impact Harvard Bioscience's business.

Harvard Bioscience has experienced and may continue to experience reduced demand for its products as a result of the recent downturn and increased uncertainty in the general economic environment in which Harvard Bioscience and its customers operate. Harvard Bioscience cannot project the extent of the impact of the recent economic downturn. If economic conditions worsen or if a wider economic slowdown occurs, Harvard Bioscience may experience a material adverse effect on its business, operating results, and financial condition.

Harvard Bioscience may not realize the expected benefits of its recent acquisitions of Genomic Solutions, BTX and GeneMachines due to difficulties integrating the businesses, operations and product lines..

Harvard Bioscience's ability to achieve the benefits of its recent acquisitions of Genomic Solutions, BTX and GeneMachines will depend in part on the integration and leveraging of technology, operations, sales and marketing channels and personnel. The integration process is a complex, time-consuming and expensive process and may disrupt Harvard Bioscience's business if not completed in a timely and efficient manner. The challenges involved in this integration include the following:

- demonstrating to customers and suppliers that the acquisitions will not result in adverse changes in client service standards or business focus and
- addressing any perceived adverse changes in business focus.

Harvard Bioscience may have difficulty successfully integrating the acquired businesses, the domestic and foreign operations or the product lines, and as a result, Harvard Bioscience may not realize any of the anticipated benefits of the acquisitions. Additionally, Harvard Bioscience cannot assure that its growth rate will equal the growth rates that have been experienced by Harvard Bioscience and the acquired companies, respectively, operating as separate companies in the past.

Genomic Solutions, Harvard Bioscience's recently acquired subsidiary, has a history of losses and may not be able to sustain profitability.

Genomic Solutions incurred net losses of $4.0 million for the six months ended June 30, 2002, $26.1 million for the year ended December 31, 2001, $8.9 million for the year ended December 31, 2000 and $11.1 million for the year ended December 31, 1999. As of June 30, 2002, Genomic Solutions had an accumulated deficit of $72.0 million. In September 2001, Genomic Solutions instituted a restructuring plan designed to reduce its operating expenses. In July 2002, Genomic Solutions announced a further restructuring of its operations. However, even with these restructurings, Genomic Solutions needs to generate significant revenues to achieve and maintain profitability. Genomic Solutions' continued revenue growth depends on many factors, many of which are beyond its control, including factors discussed in this risk factors section. Genomic Solutions may not sustain revenue growth. Even if Genomic Solutions does achieve profitability, it may not sustain or increase profitability on a quarterly or annual basis.

As an acquisitive company, the Company may be the subject of lawsuits from either an acquired company's previous stockholders or the Company's current stockholders.

As an acquisitive company, the Company may be the subject of lawsuits from either an acquired company's previous stockholders or the Company's current stockholders. These lawsuits could result from the actions of the acquisition target prior to the date of the acquisition, from the acquisition transaction itself or from actions after the acquisition. Defending potential lawsuits could cost the Company significant expense and detract management's attention from the operation of the business. Additionally, these lawsuits could result in the cancellation of or the inability to renew, certain insurance coverage that would be necessary to protect the Company's assets.

Harvard Bioscience's business is subject to economic, political and other risks associated with international revenues and operations.

Since Harvard Bioscience manufactures and sells its products worldwide, its business is subject to risks associated with doing business internationally. Harvard Bioscience's revenues from its non-U.S. operations represented approximately 48% of total revenues for the three and six months ended June 30, 2003. Harvard Bioscience anticipates that revenue from international operations will continue to represent a substantial portion of total revenues. In addition, a number of Harvard Bioscience's manufacturing facilities and suppliers are located outside the United States. Accordingly, Harvard Bioscience's future results could be harmed by a variety of factors, including:

- changes in foreign currency exchange rates, which resulted in a foreign currency loss of approximately $143,000 and a foreign currency loss of approximately $30,000 for the three and six months ended June 30, 2003 and an increase of foreign equity of approximately $1,262,000 for the six months ended June 30, 2003,
- changes in a specific country's or region's political or economic conditions, including Western Europe and Japan, in particular,
- potentially negative consequences from changes in tax laws affecting the ability to expatriate profits,
- difficulty in staffing and managing widespread operations, and
- unfavorable labor regulations applicable to European operations, such as severance and the unenforceability of non-competition agreements in the European Union.

Harvard Bioscience's quarterly revenues will likely be affected by various factors, including the seasonal nature of purchasing in Europe and the timing of capital equipment purchases by customers.

Harvard Bioscience's revenues may vary from quarter to quarter due to a number of factors, including the timing of catalog mailings and new product introductions, future acquisitions and its substantial sales to European customers, who

in summer months often defer purchases. Therefore, Harvard Bioscience expects revenues from European sales to be lower during the summer season and as a result quarter-to-quarter revenues will likely experience fluctuations. With the acquisition of Union Biometrica in May 2001, Genomic Solutions in October 2002 and GeneMachines in March 2003, an increasing portion of Harvard Bioscience's revenues may result from sales of relatively high-priced products. Delays in purchase orders, receipt, manufacture, shipment or receivables collection of these relatively high-priced products could lead to substantial variability in revenues, operating results and working capital requirements from quarter-to-quarter, which could adversely affect Harvard Bioscience's stock price. In particular, delays or reduction in purchase orders from the pharmaceutical and biotechnology industries could have a material adverse effect on Harvard Bioscience, as more fully described elsewhere in these risk factors.

Harvard Bioscience may lose money when it exchanges foreign currency received from international revenues into U.S. dollars.

For the three and six months ended June 30, 2003, approximately 44% of Harvard Bioscience's business was conducted in currencies other than the U.S. dollar, which is its reporting currency. As a result, currency fluctuations among the U.S. dollar and the currencies in which Harvard Bioscience does business have caused and will continue to cause foreign currency transaction gains and losses. Currently, Harvard Bioscience attempts to manage foreign currency risk through the matching of assets and liabilities. In the future, Harvard Bioscience may undertake to manage foreign currency risk through additional hedging methods. Harvard Bioscience recognizes foreign currency gains or losses arising from its operations in the period incurred. Harvard Bioscience cannot guarantee that it will be successful in managing foreign currency risk or in predicting the effects of exchange rate fluctuations upon its future operating results because of the number of currencies involved, the variability of currency exposure and the potential volatility of currency exchange rates.

Additional costs for complying with recent and proposed future changes in Securities and Exchange Commission, Nasdaq Stock Market and accounting rules could adversely affect our profits.

Recent and proposed future changes in the Securities and Exchange Commission and Nasdaq rules, as well as changes in accounting rules, will cause the Company to incur additional costs including professional fees, as well as additional personnel costs, in order to keep informed of the changes and operate in a compliant manner. These additional costs may be significant enough to cause the Company's growth targets to be reduced, and consequently, the Company's financial position and results of operations may be negatively impacted.

With new rules, including the Sarbanes-Oxley Act of 2002, the Company may have difficulty in retaining or attracting officers, directors for the board and various sub-committees thereof.

The recent and proposed changes in SEC and Nasdaq rules, including those resulting from the Sarbanes-Oxley Act of 2002, may result in the Company being unable to attract and retain the necessary officers, board directors and members of sub-committees thereof, to effectively manage the Company. The perceived increased personal risk associated with these recent changes, may deter qualified individuals from wanting to participate in these roles.

The Company may have difficulty obtaining adequate directors and officers insurance and the cost for coverage may significantly increase.

As an acquisitive company, the Company may have difficulty in obtaining adequate directors' and officers' insurance to protect the Company and its Directors and Officers from claims made against them. Additionally, even if adequate coverage is available, the costs for such coverage may be significantly greater than current costs. This additional cost may have a significant effect on the Company's profits and as a result the Company's results of operations may be adversely affected.

Harvard Bioscience plans significant growth, and there is a risk that it will not be able to manage this growth.

Harvard Bioscience's success will depend on the expansion of its operations both through organic growth and acquisitions. Effective growth management will place increased demands on management, operational and financial resources. To manage growth, Harvard Bioscience must expand its facilities, augment its operational, financial and management systems, and hire and train additional qualified personnel. Failure to manage this growth effectively could impair Harvard Bioscience's ability to generate revenue or could cause Harvard Bioscience's expenses to increase more rapidly than revenue, resulting in operating losses.

If it fails to retain key personnel and hire, train and retain qualified employees, Harvard Bioscience may not be able to compete effectively, which could result in reduced revenue or increased costs.

Harvard Bioscience's success is highly dependent on the continued services of key management, technical and scientific personnel. Harvard Bioscience's management and other employees may voluntarily terminate their employment at any time upon short notice. The loss of the services of any member of the senior management team, including the Chief Executive Officer, Chane Graziano, the President, David Green, the Chief Financial Officer, Susan Luscinski, or any of the managerial, technical or scientific staff may significantly delay or prevent the achievement of product development and other business objectives. Harvard Bioscience maintains key person life insurance on Messrs. Graziano and Green. Harvard Bioscience's future success will also depend on its ability to identify, recruit and retain additional qualified scientific, technical and managerial personnel. Competition for qualified personnel in the technology area is intense, and Harvard Bioscience operates in several geographic locations where labor markets are particularly competitive, including Boston, Massachusetts and London and Cambridge, England, and where demand for personnel with these skills is extremely high and is likely to remain high. As a result, competition for qualified personnel is intense, particularly in the areas of general management, finance, information technology, engineering and science, and the process of hiring suitably qualified personnel is often lengthy and expensive, and may become more expensive in the future. If it is unable to hire and retain a sufficient number of qualified employees, Harvard Bioscience's ability to conduct and expand its business could be seriously reduced.

Harvard Bioscience's competitors and potential competitors may develop products and technologies that are more effective or commercially attractive than its products.

Harvard Bioscience expects to encounter increased competition from both established and development-stage companies that continually enter the market. Harvard Bioscience anticipates that these competitors will include:

- companies developing and marketing life sciences research tools,
- health care companies that manufacture laboratory-based tests and analyzers,
- diagnostic and pharmaceutical companies, and
- companies developing drug discovery technologies.

Currently, Harvard Bioscience's principal competition comes from established companies that provide products that perform many of the same functions for which Harvard Bioscience markets its products. Harvard Bioscience's competitors may develop or market products that are more effective or commercially attractive than its current or future products. Many of Harvard Bioscience's competitors have substantially greater financial, operational, marketing and technical resources than Harvard Bioscience does. Moreover, these competitors may offer broader product lines and tactical discounts, and may have greater name recognition. In addition, Harvard Bioscience may face competition from new entrants into the field. Harvard Bioscience may not have the financial resources, technical expertise or marketing, distribution or support capabilities to compete successfully in the future.

If Harvard Bioscience is unable to effectively protect its intellectual property, third parties may use its technology, which would impair Harvard Bioscience's ability to compete in its markets.

Harvard Bioscience's continued success will depend in significant part on its ability to obtain and maintain meaningful patent protection for certain of its products throughout the world. Patent law relating to the scope of claims in the technology fields in which Harvard Bioscience operates is still evolving. The degree of future protection for Harvard Bioscience's proprietary rights is uncertain. Harvard Bioscience owns 22 U.S. patents and has 20 patent applications pending in the U.S. Harvard Bioscience also owns numerous U.S. registered trademarks and trade names and has applications for the registration of trademarks and trade names pending. Harvard Bioscience relies on patents to protect a significant part of its intellectual property and to enhance its competitive position. However, Harvard Bioscience's presently pending or future patent applications may not issue as patents, and any patent previously issued to Harvard Bioscience may be challenged, invalidated, held unenforceable or circumvented. Furthermore, the claims in patents which have been issued or which may be issued to Harvard Bioscience in the future may not be sufficiently broad to prevent third parties from producing competing products similar to Harvard Bioscience's products. In addition, the laws of various foreign countries in which Harvard Bioscience competes may not protect its intellectual property to the same

extent as do the laws of the United States. If Harvard Bioscience fails to obtain adequate patent protection for its proprietary technology, its ability to be commercially competitive will be materially impaired.

In addition to patent protection, Harvard Bioscience also relies on protection of trade secrets, know-how and confidential and proprietary information. To maintain the confidentiality of trade-secrets and proprietary information, Harvard Bioscience generally seeks to enter into confidentiality agreements with its employees, consultants and strategic partners upon the commencement of a relationship. However, Harvard Bioscience may not obtain these agreements in all circumstances. In the event of unauthorized use or disclosure of this information, these agreements, even if obtained, may not provide meaningful protection for Harvard Bioscience's trade-secrets or other confidential information. In addition, adequate remedies may not exist in the event of unauthorized use or disclosure of this information. The loss or exposure of Harvard Bioscience's trade secrets and other proprietary information would impair its competitive advantages and could have a material adverse effect on its operating results, financial condition and future growth prospects.

Harvard Bioscience may be involved in lawsuits to protect or enforce its patents that would be expensive and time-consuming.

In order to protect or enforce its patent rights, Harvard Bioscience may initiate patent litigation against third parties. Harvard Bioscience may also become subject to interference proceedings conducted in the patent and trademark offices of various countries to determine the priority of inventions. Several of Harvard Bioscience's products are based on patents that are closely surrounded by patents held by competitors or potential competitors. As a result, Harvard Bioscience believes there is a greater likelihood of a patent dispute than would be expected if its patents were not closely surrounded by other patents. The defense and prosecution, if necessary, of intellectual property suits, interference proceedings and related legal and administrative proceedings would be costly and divert Harvard Bioscience's technical and management personnel from their normal responsibilities. Harvard Bioscience may not prevail in any of these suits. An adverse determination of any litigation or defense proceedings could put Harvard Bioscience's patents at risk of being invalidated or interpreted narrowly and could put its patent applications at risk of not issuing.

Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of Harvard Bioscience's confidential information could be compromised by disclosure during this type of litigation. For example, during the course of this kind of litigation, there could be public announcements of the results of hearings, motions or other interim proceedings or developments in the litigation. Securities analysts or investors may perceive these announcements to be negative, which could cause the market price of Harvard Bioscience's stock to decline.

Harvard Bioscience's success will depend partly on its ability to operate without infringing on or misappropriating the intellectual property rights of others.

Harvard Bioscience may be sued for infringing on the intellectual property rights of others, including the patent rights, trademarks and trade names of third parties. Intellectual property litigation is costly and the outcome is uncertain. If Harvard Bioscience does not prevail in any intellectual property litigation, in addition to any damages it might have to pay, Harvard Bioscience could be required to stop the infringing activity, or obtain a license to or design around the intellectual property in question. If Harvard Bioscience is unable to obtain a required license on acceptable terms, or is unable to design around any third party patent, Harvard Bioscience may be unable to sell some of its products and services, which could result in reduced revenue.

AmiKa Corporation, whose assets Harvard Bioscience purchased in July 2000, received and responded to correspondence from counsel to a third party competitor regarding the possible infringement by it of a patent and other pending patent applications held by such third party. Because this competitor has

not pursued this matter since AmiKa's reply on June 7, 2000 in which AmiKa stated that it did not believe it was infringing on this competitor's patents, Harvard Bioscience believes that this matter has been concluded. However, Harvard Bioscience cannot assure you that this third party competitor will not assert these or similar claims in the future. Harvard Bioscience does not currently derive a significant portion of its revenue from products which depend on the intellectual property related to this alleged infringement.

Harvard Bioscience is dependent upon its licensed technologies and may need to obtain additional licenses in the future to offer its products and remain competitive.

Harvard Bioscience has licensed key components of its technologies from third parties. While it does not currently derive a material portion of its revenue from products that depend on these licensed technologies, Harvard Bioscience may in the future. If its license agreements were to terminate prematurely or if it breaches the terms of any licenses or otherwise fails to maintain its rights to these technologies, Harvard Bioscience may lose the right to manufacture or sell its products that use these licensed technologies. In addition, Harvard Bioscience may need to obtain licenses to additional technologies in the future in order to keep its products competitive. If it fails to license or otherwise acquire necessary technologies, Harvard Bioscience may not be able to develop new products that it needs to remain competitive.

Many of Harvard Bioscience's current and potential customers are from the pharmaceutical and biotechnology industries and are subject to risks faced by those industries.

Harvard Bioscience derives a substantial portion of its revenues from pharmaceutical and biotechnology companies. Harvard Bioscience expects that pharmaceutical and biotechnology companies will continue to be its major source of revenues for the foreseeable future. As a result, Harvard Bioscience is subject to risks and uncertainties that affect the pharmaceutical and biotechnology industries, such as pricing pressures as third-party payers continue challenging the pricing of medical products and services, government regulation, ongoing consolidation and uncertainty of technological change, and to reductions and delays in research and development expenditures by companies in these industries. In particular, several proposals are being contemplated by lawmakers in the United States to extend the Federal Medicare program to include reimbursement for prescription drugs. Many of these proposals involve negotiating decreases in prescription drug prices or imposing price controls on prescription drugs. If appropriate reimbursement cannot be obtained, it could result in customers purchasing fewer products from Harvard Bioscience as they reduce their research and development expenditures.

In particular, the biotechnology industry has been faced with declining market capitalization and a difficult capital-raising and financing environment. If biotechnology companies are unable to obtain the financing necessary to purchase Harvard Bioscience's products, Harvard Bioscience's business and results of operations could be materially adversely affected. As it relates to the pharmaceutical industry, several companies have significant patents that have expired or are about to expire, which could result in reduced revenues for those companies. If pharmaceutical companies suffer reduced revenues as a result of these patent expirations, they may be unable to purchase Harvard Bioscience's products, and Harvard Bioscience's business and results of operations could be materially adversely affected.

In addition, Harvard Bioscience is dependent, both directly and indirectly, upon general health care spending patterns, particularly in the research and development budgets of the pharmaceutical and biotechnology industries, as well as upon the financial condition and purchasing patterns of various governments and government agencies. Many of Harvard Bioscience's customers, including universities, government research laboratories, private foundations and other institutions, obtain funding for the purchase of products from grants by governments or government agencies. There exists the risk of a potential decrease in the level of governmental spending allocated to scientific and medical research which could substantially reduce or even eliminate these grants. If government funding necessary to purchase Harvard Bioscience's products were to decrease, Harvard Bioscience's business and results of operations could be materially adversely affected.

If Harvard Bioscience is unable to achieve and sustain market acceptance of its target validation high throughput screening, assay development and ADMET screening products across their broad intended range of applications, Harvard Bioscience will not generate expected revenue growth.

Harvard Bioscience's business strategy depends, in part, on successfully developing and commercializing its ADMET screening, molecular biology, high-throughput/high-content screening, and genomics, proteomics and high-throughput screening to meet customers' expanding needs and demands, an example of which is the COPAS™ technology obtained from the 2001 acquisition of Union Biometrica. Market acceptance of this and other new products will depend on many factors, including the extent of Harvard Bioscience's marketing efforts and its ability to demonstrate to existing and potential customers that its technologies are superior to other technologies or techniques and products that are available now or may become available in the future. If Harvard Bioscience's new products do not gain market acceptance, or if market acceptance occurs at a slower rate than anticipated, it could materially adversely affect its business and future growth prospects.

Harvard Bioscience's products compete in markets that are subject to rapid technological change, and therefore one or more of its products could be made obsolete by new technologies.

Because the market for drug discovery tools is characterized by rapid technological change and frequent new product introductions, Harvard Bioscience's product lines may be made obsolete unless it is able to continually improve existing products and develop new products. To meet the evolving needs of its customers, Harvard Bioscience must continually enhance its current and planned products and develop and introduce new products. However, Harvard Bioscience may experience difficulties that may delay or prevent the successful development, introduction and marketing of new products or product enhancements. In addition, Harvard Bioscience's product lines are based on complex technologies that are subject to rapid change as new technologies are developed and introduced in the marketplace. Harvard Bioscience may have difficulty in keeping abreast of the rapid changes affecting each of the different markets it serves or intends to serve. Harvard Bioscience's failure to develop and introduce products in a timely manner in response to changing technology, market demands or the requirements of its customers could cause its product sales to decline, and Harvard Bioscience could experience significant losses.

Harvard Bioscience offers and plans to offer a broad product line and has incurred and expects to continue to incur substantial expenses for development of new products and enhanced versions of its existing products. The speed of technological change in its market may prevent Harvard Bioscience from being

able to successfully market some or all of its products for the length of time required to recover development costs. Failure to recover the development costs of one or more products or product lines could decrease Harvard Bioscience's profitability or cause Harvard Bioscience to experience significant losses.

Harvard Bioscience has limited experience in manufacturing some of its products that could cause problems or delays resulting in lost revenue.

If Harvard Bioscience fails to manufacture and deliver products in a timely manner, its relationships with its customers could be seriously harmed, and its revenue could decline. To achieve the production levels necessary for successful commercialization, Harvard Bioscience will need to scale-up its manufacturing facilities and in some cases establish automated manufacturing methods and quality control procedures. Harvard Bioscience cannot assure you that manufacturing or quality control problems will not arise as it attempts to scale-up its production or that it can scale-up manufacturing and quality control in a timely manner or at commercially reasonable costs. If it is unable to manufacture these products consistently on a timely basis because of these or other factors, Harvard Bioscience may not achieve the level of sales from these products that it otherwise anticipates.

If Amersham Biosciences (formerly Amersham Pharmacia Biotech) terminates its distribution agreement with Harvard Bioscience or fails to perform its obligations under the distribution agreement, it could impair the marketing and distribution efforts for some of Harvard Bioscience's products and result in lost revenues.

For the three and six months ended June 30, 2003, approximately 12% and 12%, respectively, of Harvard Bioscience's revenues were generated through an agreement with Amersham Biosciences, which was renegotiated in August 2001, under which Amersham Biosciences acts as the primary marketing and distribution channel for the products of Harvard Bioscience's Biochrom subsidiary. Under the terms of this agreement, Harvard Bioscience is restricted from allowing another person or entity to distribute, market and sell the majority of the products of its Biochrom subsidiary. Harvard Bioscience is also restricted from making or promoting sales of the majority of the products of its Biochrom subsidiary to any person or entity other than Amersham Biosciences or its authorized sub-distributors. Harvard Bioscience has little or no control over Amersham Biosciences' marketing and sales activities or the use of its resources. Amersham Biosciences may fail to purchase sufficient quantities of products from Harvard Bioscience or perform appropriate marketing and sales activities. The failure by Amersham Biosciences to perform these activities could materially adversely affect Harvard Bioscience's business and growth prospects during the term of this agreement. In addition, Harvard Bioscience's inability to maintain its arrangement with Amersham Biosciences for product distribution could materially impede the growth of Harvard Bioscience's business and its ability to generate sufficient revenue. Harvard Bioscience's agreement with Amersham Biosciences may be terminated with 30 days notice under some circumstances, including in the event of a breach of a material term by Harvard Bioscience. This agreement has an initial term of three years, commencing August 1, 2001, after which it will automatically renew for an additional two years, unless terminated earlier by either party. In addition, the agreement may be terminated in accordance with its terms, by either party upon 18 months prior written notice. While Harvard Bioscience believes its relationship with Amersham Biosciences is good, Harvard Bioscience cannot guarantee that the contract will be renewed or that Amersham Biosciences will aggressively market Harvard Bioscience's products in the future.

Accounting for goodwill may have a material adverse effect on Harvard Bioscience.

Harvard Bioscience has historically amortized goodwill purchased in its acquisitions on a straight-line basis ranging from five to 15 years. Upon the adoption of SFAS No. 142, "Goodwill and Other Intangible Assets," goodwill and intangible assets with indefinite lives from acquisitions after June 30, 2001 and existing goodwill and intangible assets with indefinite lives from acquisitions prior to July 1, 2001 that remain as of December 31, 2001 are no longer amortized, but instead are evaluated annually to determine whether any portion of the remaining balance of goodwill and indefinite lived intangibles may not be recoverable, or more frequently, if events or circumstances indicate there may be an impairment. If it is determined in the future that a portion of Harvard Bioscience's goodwill and intangible assets with indefinite lives is impaired, Harvard Bioscience will be required to write off that portion of the asset which could have an adverse effect on net income for the period in which the write off occurs. At June 30, 2003, Harvard Bioscience had goodwill and intangible assets with indefinite lives of $34.6 million, or 30% of its total assets.

Harvard Bioscience may be adversely affected by litigation or arbitration involving Paul D. Grindle.

On February 4, 2002, Paul D. Grindle, the former owner of Harvard Apparatus, Inc., initiated an arbitration proceeding against Harvard Bioscience and certain directors before JAMS in Boston, Massachusetts. Mr. Grindle's claims arise out of post-closing purchase price adjustments related to Harvard Bioscience's purchase of the assets and business of Harvard Apparatus by virtue of an Asset Purchase Agreement dated March 15, 1996 and certain related agreements. In the arbitration demand, Mr. Grindle sought the return of 1,563,851 shares of common stock in Harvard Bioscience, or the disgorgement of the profits of Harvard Bioscience's sale of the stock, as well as compensatory damages and multiple damages and attorney's fees under Mass. Gen. Laws, chapter 93A. In a demand letter that was attached to the arbitration demand, Mr. Grindle asserted losses in the amount of $15 million, representing the value of the 1,563,851 shares of Harvard Bioscience's common stock as of January 2, 2002. On October 30, 2002, the Company received a decision from the arbitrator that it has prevailed on all claims asserted against it and certain of its directors in the arbitration action. Specifically, the Company received a written decision from the arbitrator granting its motion for summary disposition with respect to all claims brought against all parties in the action. We have filed a complaint in the Massachusetts Superior Court seeking to confirm the arbitrator's decision. Mr. Grindle filed a complaint in the Massachusetts Superior Court seeking to vacate the arbitrator's decision. These two matters were consolidated. On or about July 30, 2003 the Massachusetts Superior Court granted our motion to confirm the arbitrator's decision and to deny Mr. Grindle's motion to vacate.

Genomic Solutions, Harvard Bioscience's recently acquired subsidiary, and its customers are subject to significant technological uncertainty which could result in reduced acceptance and demand for Genomic Solutions' products.

Genomic Solutions' products, and the research for which they are predominately used, involve several new and complex technologies. The instrumentation and software that comprise Genomic Solutions' systems have only recently been used in commercial applications. Scientists and technicians using Genomic Solutions' products require new technical skills and training and may experience difficulties with the products. As the products continue to be used, it is possible that previously unrecognized defects will emerge. Further, in order for Genomic Solutions to address new applications for its products, it may have to add features and design new software. If it is unable to validate or achieve the improvements in its products necessary for their continued successful commercialization, the demand for its products will suffer.

The outcomes of research based on technologies using Genomic Solutions' products will be subject to the risks of failure inherent in the development of new technologies. These risks include the possibility that:

- any products based on these technologies are ineffective, unreliable or unsafe, or otherwise fail;
- producers will be unable to manufacture the products on a large scale or market the products economically;
- proprietary rights of third parties will preclude the marketing of the products; and
- third parties will market equivalent or superior products.

The failure of research and development activities using Genomic Solutions' products to result in commercially viable products could reduce the demand for those products.

Customer, vendor and employee uncertainty about the effects of the acquisitions with Genomic Solutions, BTX and GeneMachines could harm the Company.

Harvard Bioscience's and the acquired companies' customers may, in response to the consummation of the acquisitions, delay or defer purchasing decisions. Any delay or deferral in purchasing decisions by customers could adversely affect

the business of the combined company. Similarly, Genomic Solutions' and GeneMachines' employees may experience uncertainty about their future role with the combined company until or after Harvard Bioscience executes its strategies with regard to Genomic Solutions and GeneMachines employees. This may adversely affect the combined company's ability to attract and retain key Genomic Solutions and GeneMachines management, sales, marketing and technical personnel.

A significant portion of the sales cycle for Harvard Bioscience's products is lengthy and it may spend significant time on sales opportunities with no assurance of success.

Harvard Bioscience's ability to obtain customers for its products, specifically for products made by Union Biometrica and Genomic Solutions, depends in significant part upon the perception that its products can help accelerate drug discovery and development efforts. The sales cycle for its systems is typically between three and six months due to the education effort that is required. Harvard Bioscience's sales efforts often require sales presentations to various departments within a single customer, including research and development personnel and key management. In addition, Harvard Bioscience may be required to negotiate agreements containing terms unique to each customer. Harvard Bioscience may expend substantial funds and management effort with no assurance that it will successfully sell its systems or products to the customer.

Ethical concerns surrounding the use of genomic information and misunderstanding of the nature of its business could adversely affect the Company's ability to develop and sell its existing products and new products.

Genetic screening of humans is used to determine individual predisposition to medical conditions. Genetic screening has raised ethical issues regarding the confidentiality and appropriate uses of the resulting information. Government authorities may regulate or prohibit the use of genetic screening to determine genetic predispositions to medical conditions. Additionally, the public may disfavor and reject the use of genetic screening.

Genomic and proteomic research is used to determine the role of genes and proteins in living organisms. The Company's products are designed and used for genomic and proteomic research and drug discovery and cannot be used for genetic screening without significant modification. However, it is possible that government authorities and the public may fail to distinguish between the genetic screening of humans and genomic and proteomic research. If this occurs, the Company's products and the processes for which its products are used may be subjected to government regulations intended to affect genetic screening. Further, if the public fails to distinguish between the two fields, it may pressure the Company's customers to discontinue the research and development initiatives for which the Company's products are used.

The merger with Genomic Solutions may fail to qualify as a reorganization for federal income tax purposes, resulting in the recognition of taxable gain or loss in respect of Harvard Bioscience's treatment of the merger as a taxable sale.

Both Harvard Bioscience and Genomic Solutions intended the merger to qualify as a reorganization within the meaning of Section 368(a) of the Internal Revenue Code of 1986, as amended. Although the Internal Revenue Service, or IRS, will not provide a ruling on the matter, Genomic Solutions obtained a legal opinion from its tax counsel that the merger constitutes a reorganization for federal income tax purposes. This opinion does not bind the IRS or prevent the IRS from adopting a contrary position. If the merger fails to qualify as a reorganization, the merger would be treated as a deemed taxable sale of assets by Genomic Solutions for an amount equal to the merger consideration received by Genomic Solutions' stockholders plus any liabilities assumed by Harvard Bioscience. As successor to Genomic Solutions, Harvard Bioscience would be liable for any tax incurred by Genomic Solutions as a result of this deemed asset sale.

Failure to raise additional capital or generate the significant capital necessary to expand its operations and invest in new products could reduce Harvard Bioscience's ability to compete and result in lower revenue.

Harvard Bioscience anticipates that its existing capital resources, including debt and equity, will enable it to maintain currently planned operations for the foreseeable future. However, this expectation is premised on the current operating plan, which may change as a result of many factors, including market acceptance of new products and future opportunities with collaborators. Consequently, Harvard Bioscience may need additional funding sooner than anticipated. Harvard Bioscience's inability to raise capital could seriously harm its business and product development efforts. In addition, Harvard Bioscience may not be able to reach agreement on the terms of the $25 million credit facility that it is currently negotiating and may be required to repay, on less than favorable terms, the $6 million demand bridge loan entered into in anticipation of closing a larger credit facility.

If Harvard Bioscience raises additional funds through the sale of equity or convertible debt or equity-linked securities, existing percentages of ownership in the Company will be reduced. In addition, these transactions may dilute the value of outstanding Harvard Bioscience stock. Harvard Bioscience may issue securities that have rights, preferences and privileges senior to its common stock. If it raises additional funds through collaborations or licensing arrangements, Harvard Bioscience may relinquish rights to certain of its technologies or products, or grant licenses to third parties on terms that are unfavorable. Harvard Bioscience may be unable to raise additional funds on acceptable terms. If future financing is not available or is not available on acceptable terms, Harvard Bioscience may have to curtail operations or change its business strategy.

Harvard Bioscience's stock price has fluctuated in the past and could experience substantial declines in the future and, as a result, management's attention may be diverted from more productive tasks.

The market price of Harvard Bioscience's common stock has experienced significant fluctuations since its initial public offering in December 2000 and may become volatile and could decline in the future, perhaps substantially, in response to various factors, many of which are beyond its control, including:

- technological innovations by competitors or in competing technologies,
- revenues and operating results fluctuating or failing to meet the expectations of securities analysts or investors in any quarter,
- termination or suspension of equity research coverage by securities' analysts,
- comments of securities analysts and mistakes by or misinterpretation of comments from analysts,
- downward revisions in securities analysts' estimates or management guidance,
- investment banks and securities analysts may themselves be subject to suits that may adversely affect the perception of the market,
- conditions or trends in the biotechnology and pharmaceutical industries,
- announcements of significant acquisitions or financings or changes in strategic partnerships, and
- a decrease in the demand for Harvard Bioscience's common stock.

In addition, the stock market in general, and the Nasdaq National Market and the biotechnology industry market in particular, have experienced significant price and volume fluctuations that at times have been unrelated or disproportionate to the operating performance of those companies. These broad market and industry factors may seriously harm the market price of Harvard Bioscience's common stock, regardless of its operating performance. In the past, securities class action litigation has often been instituted following periods of volatility in the market price of a company's securities. A securities class action suit against Harvard Bioscience could result in substantial costs, potential liabilities and the diversion of management's attention and resources.

Provisions of Delaware law and of Harvard Bioscience's charter and bylaws may make a takeover more difficult which could cause its stock price to decline.

Provisions in Harvard Bioscience's certificate of incorporation and bylaws and in the Delaware corporate law may make it difficult and expensive for a third party to pursue a tender offer, change in control or takeover attempt which is opposed by management and the board of directors. Public stockholders who might desire to participate in such a transaction may not have an opportunity to do so. Harvard Bioscience also has a staggered board of directors that makes it difficult for stockholders to change the composition of the board of directors in any one year. These anti-takeover provisions could substantially impede the ability of public stockholders to change Harvard Bioscience's management and board of directors. Such provisions may also limit the price that investors might be willing to pay for shares of Harvard Bioscience's common stock in the future.

An active trading market for Harvard Bioscience's common stock may not be sustained.

Although Harvard Bioscience's common stock is quoted on the Nasdaq National Market, an active trading market for the shares may not be sustained.

Future issuance of preferred stock may dilute the rights of Harvard Bioscience's common stockholders.

Harvard Bioscience's board of directors has the authority to issue up to 5,000,000 shares of preferred stock and to determine the price, privileges and other terms of these shares. The board of directors may exercise this authority without any further approval of stockholders. The rights of the holders of common stock may be adversely affected by the rights of future holders of preferred stock.

Cash dividends will not be paid on Harvard Bioscience's common stock.

Harvard Bioscience intends to retain all of its earnings to finance the expansion and development of its business and does not anticipate paying any cash dividends in the foreseeable future. As a result, capital appreciation, if any, of Harvard Bioscience's common stock will be a stockholder's sole source of gain for the foreseeable future.

Item 3. Quantitative and Qualitative Disclosures About Market Risk.

We manufacture and test the majority of products in locations throughout the United States, the United Kingdom and Germany. We sell our products globally through our direct catalog sales and indirect distributor channel. 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. Historically, we have not hedged our

foreign currency position. Currently, we attempt to manage foreign currency risk through the matching of assets and liabilities. However, as our sales expand internationally, we plan to continue to evaluate currency risks and we may enter into foreign exchange contracts from time to time to mitigate foreign currency exposure.

Item 4. Controls and Procedures.

As required by Rules 13a-15 and 15d-15 under the Securities Exchange Act of 1934 we have evaluated, with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, the effectiveness of our disclosure controls and procedures as of the end of the period covered by this report. In designing and evaluating our disclosure controls and procedures, we and our management recognize that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives, and our management necessarily was required to apply its judgment in evaluating and implementing possible controls and procedures. Based upon that evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that they believe that, , our disclosure controls and procedures are reasonably effective to ensure that information required to be disclosed by us in the reports we file or submit under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the Securities and Exchange Commission's rules and forms. We intend to continue to review and document our disclosure controls and procedures, including our internal control over financial reporting, on an ongoing basis, and may from time to time make changes aimed at enhancing their effectiveness and to ensure that our systems evolve with our business. There were no changes in our internal control over financial reporting that occurred during our most recent fiscal quarter that has materially affected, is is reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

Item 1. Legal Proceedings.

On February 4, 2002, Paul D. Grindle, the former owner of Harvard Apparatus, Inc., initiated an arbitration proceeding against us and certain directors before JAMS in Boston, Massachusetts. Mr. Grindle's claims arise out of post-closing purchase price adjustments related to our purchase of the assets and business of Harvard Apparatus by virtue of an Asset Purchase Agreement dated March 15, 1996 and certain related agreements. In the arbitration demand, Mr. Grindle sought

the return of 1,563,851 shares of common stock in Harvard Bioscience, or the disgorgement of the profits of our sale of the common stock, as well as compensatory damages and multiple damages and attorney's fees under Mass. Gen. Laws, chapter 93A. In a demand letter that was attached to the arbitration demand, Mr. Grindle asserted losses in the amount of $15 million, representing the value of the 1,563,851 shares of Harvard Bioscience's common stock as of January 2, 2002. On October 30, 2002, we received a decision from the arbitrator that we have prevailed on all claims asserted against us and certain of our directors in the arbitration action. Specifically, we received a written decision from the arbitrator granting our motion for summary disposition with respect to all claims brought against all parties in the action. We have filed a complaint in the Massachusetts Superior Court seeking to confirm the arbitrator's decision. Mr. Grindle filed a complaint in the Massachusetts Superior Court seeking to vacate the arbitrator's decision. These two matters were consolidated. On or about July 30, 2003 the Massachusetts Superior Court granted our motion to confirm the arbitrator's decision and to deny Mr. Grindle's motion to vacate.

On May 30, 2002, the Company served a claim notice (the "Claim Notice") on the former shareholders of Union Biometrica (the "Former Shareholders"), seeking indemnification in connection with the May 31, 2001 Merger Agreement that effectuated the Company's acquisition of Union Biometrica. The Claim Notice had the effect of withholding the release of certain Company shares placed in escrow as part of the merger consideration to the Former Shareholders. On September 5, 2002, the Former Shareholders served a Demand for Arbitration on the Company which essentially set forth defenses against the indemnification claims asserted in the Claim Notice, alleged that the Company did not have an adequate basis for its Claim Notice and asserted that the Former Shareholders could be harmed by a decline in value of the escrowed shares as a result of the Company's failure to release the escrowed shares. A hearing was held by an arbitrator in late April and early May, 2003. On July 15, 2003, the Company received the arbitrator's award (the "Award") in favor of the Former Shareholders. The arbitrator ruled that the Company must release 474,420 Company shares held in escrow to the Former Shareholders and also must pay the Former Shareholders an amount estimated to be approximately $700,000 which represents the difference between the market value of 322,875 Company shares held in escrow as of May 31, 2002, and the market value of those shares as of the date those shares are released, calculated as prescribed by the escrow agreement. This one-time charge and certain related costs, totaling approximately $815,000 is reflected in the Company's financial results for the second quarter of 2003. The Award is currently still pending as each party is seeking corrections thereto and is not yet final.

In September, 2002, our Genomic Solutions subsidiary filed suit against Affymetrix, Inc. in the State of Michigan Circuit Court for the County of Washtenaw for breach of contract, negligent/innocent misrepresentation, tortuous interference with prospective economic advantage and declaratory relief. The action arose out of a License Agreement that Genomic Solutions entered into with Affymetrix with respect to certain Affymetrix patent rights. In November 2002, Affymetrix filed a counter-claim against Genomic Solutions alleging breach of contract and requesting approximately $1.45 million in damages for license and other fees and interest allegedly owed. On April 30, 2003, Affymetrix was granted summary disposition and Genomic Solutions' claims were dismissed. In June 2003 the Company settled this claim and paid $1.3 million to Affymetrix

In December, 2002, Oxford Gene Technology Ltd. filed suit against our Genomic Solutions subsidiary, Mergen Ltd., Clontech Laboratories, Inc., PerkinElmer Life Sciences, Inc., Axon Instruments, Inc. and BioDiscovery, Inc. in the United States District Court for the District of Delaware seeking unspecified damages as a result of alleged infringement by each of the defendants of a United States Patent issued to Oxford Gene Technology. On May 12, 2003, the Company and Oxford Gene Technology settled the dispute and the lawsuit will be dismissed. Under the settlement, Genomic Solutions will display certain notices in connection with the marketing of certain genomic-related products. In addition, a nominal amount is being paid to Oxford Gene Technology.

In addition, from time to time, we may be involved in various claims and legal proceedings arising in the ordinary course of business. Except as disclosed above, we are not currently a party to any such claims or proceedings, which, if decided adversely to us, would either individually or in the aggregate have material adverse effect on our business, financial condition or results of operations.

Item 2. Changes in Securities and Use of Proceeds – None.

Item 3. Defaults Upon Senior Securities – None.

Item 4. Submission of Matters to a Vote of Security Holders

On May 22, 2003, the Company held its Annual Meeting of Stockholders. The stockholders voted, either in person or by proxy, to elect three Class III Directors until the 2006 Annual Meeting of Stockholders and until their successors are duly elected and qualified. The results of the meeting were as follows:

Name of Director	For	Withheld
Chane Graziano	23,600,231	3,623,827
Earl Lewis	23,220,612	4,003,446
Jeffrey Williams	23,728,980	3,495,078

Following the Annual Meeting of Stockholders, the composition of the Board of Directors is as follows:

Class I Directors (to serve until 2004 Annual Meeting)
Christopher W. Dick
Robert A. Dishman
Richard C. Klaffky

Class II Directors (to serve until 2005 Annual Meeting)
David Green
John F. Kennedy

Class III Directors (to serve until 2006 Annual Meeting)
Chane Graziano
Earl R. Lewis
Jeffrey Williams

Item 5. Other Information – None.

Item 6. Exhibits and Reports on Form 8-K

(a) Exhibit Index

31.1 Certification of Chief Financial Officer of Harvard Bioscience, Inc., pursuant to rules 13a-15(e) and 15d-15(e), 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-15(e) and 15d-15(e), 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.

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.

* 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.

(b) Reports on Form 8-K

1. Form 8-K filed May 1, 2003 – furnishing the press release of Harvard Bioscience issued on April 30, 2003, announcing its financial results for the quarter ended March 31, 2003.

2. Form 8-K/A filed May 27, 2003 – amending the current report filed on March 25, 2003 to provide financial information relating to the acquisition of Genomic Instrumentation Services, Inc., d/b/a GeneMachines on March 12, 2003.

3. Form 8-K filed July 17, 2003 – reporting the arbitration award in favor of the former shareholders of Union Biometrica, Inc.

4. Form 8-K filed July 29, 2003 – furnishing the press release of Harvard Bioscience issued on July 28, 2003, announcing its financial results for the quarter ended June 30, 2003.

SIGNATURES

Pursuant to the requirements of Section 13 and 15(d) 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.

HARVARD BIOSCIENCE, INC.

By: /s/ Chane Graziano
Chane Graziano
Chief Executive Officer

By: /s/ Susan Luscinski
Susan Luscinski
Chief Financial Officer

Date: August 14, 2003

EXHIBIT 31.1

Certification

I, Susan Luscinski, 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 consolidated 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)) 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. [Omitted pursuant to SEC Release Nos. 33-8238 and 34-47986];

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 14, 2003

/s/ Susan Luscinski
Susan Luscinski
Chief Financial Officer

EXHIBIT 31.2

Certification

I, Chane Graziano, 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 consolidated 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)) 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. [Omitted pursuant to SEC Release Nos. 33-8238 and 34-47986];

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 reasonable 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 14, 2003

/s/ Chane Graziano
Chane Graziano
Chief Executive Officer

EXHIBIT 32.1

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

The undersigned officer of Harvard Bioscience, Inc. (the "Company") hereby certifies that the Company's quarterly report on Form 10-Q for the quarterly period ended June 30, 2003 to which this certification is being furnished as an exhibit (the "Report"), 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 14, 2003

/s/ Susan Luscinski
Name: Susan Luscinski
Title: Chief Financial Officer

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

EXHIBIT 32.2

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

The undersigned officer of Harvard Bioscience, Inc. (the "Company") hereby certifies that the Company's quarterly report on Form 10-Q for the quarterly period ended June 30, 2003 to which this certification is being furnished as an exhibit (the "Report"), 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 14, 2003

/s/ Chane Graziano
Name: Chane Graziano
Title: Chief Executive Officer

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