UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, DC 20549

FORM 10-K
Amendment No. 2

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

For the fiscal year ended June 30, 2019, or

☐ **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 0-17272

BIO-TECHNE CORPORATION

(Exact name of registrant as specified in its charter)

Minnesota **(State or other jurisdiction of incorporation or organization)**	**41-1427402** **(I.R.S. Employer Identification No.)**
614 McKinley Place N.E. **Minneapolis, MN 55413** **(Address of principal executive offices) (Zip Code)**	**(612) 379-8854** **(Registrant's telephone number, including area code)**

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, $0.01 par value	TECH	The NASDAQ Stock Market LLC

Securities registered pursuant to Section 12(g) of the Act: None

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

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

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

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

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

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

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

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

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

As of December 31, 2018 the aggregate market value of the Common Stock held by non-affiliates of the Registrant was $5.5 billion based upon the closing sale price as reported on The Nasdaq Stock Market ($144.72 per share). Shares of Common Stock held by each officer and director and by each person who owns 5% or more of the outstanding Common Stock have been excluded.

As of August 26, 2019, 38,063,504 shares of the Company's Common Stock ($0.01 par value) were outstanding.

EXPLANATORY NOTE

This Amendment No. 2 to Annual Report on Form 10-K/A ("Amendment No. 2") amends Bio-Techne Corporation's (the "Company") Amendment No. 1 to Annual Report on Form 10-K for the fiscal year ended June 30, 2019, as filed with the Securities and Exchange Commission ("SEC") on October 9, 2019 (the "Amendment No. 1"). This Amendment No. 2 is filed solely to correct the date of the audit opinion, from October 9, 2019 to August 28, 2019, referenced in KPMG LLP's ("KPMG") reports included in Amendment No. 1. The August 28, 2019 date was inadvertently updated in the process of filing Amendment No. 1. Neither the error in the report contained in Amendment No. 1 nor the correction of such error in this Amendment No. 2 affect KPMG's unqualified opinion on the Company's consolidated financial statements or KPMG's unqualified opinion on internal control over financial reporting included in the original 10-K filing dated August 28, 2019 ("Original Filing"), Amendment No. 1, or this Amendment No. 2.

As required by Rule 12b-15 under the Securities Exchange Act of 1934, as amended, this Amendment No. 2 includes a new consent of KPMG (Exhibit 23.1), new certifications from the Company's principal executive officer (Exhibit 31.1) and principal financial officer (Exhibit 31.2) and new Section 1350 certifications (Exhibit 32.1 and 32.2) dated as of the date of filing of this Amendment No. 2.

This Amendment No. 2 consists solely of the preceding cover page, this explanatory note, Part II., Item 8., "Consolidated Financial Statements and Supplementary Data," in its entirety, Item 15., "Exhibits and Financial Statement Schedules," in its entirety, the signature page, and the new certifications from the Company's principal executive officer and principal financial officer. Except as expressly set forth above, this Amendment No. 2 does not, and does not purport to, amend, update or restate the information in any other item of Amendment No. 1 or the Original Filing.

Amendment No. 2 speaks as of the date of the Original Filing, does not reflect events that may have occurred after the date of the Original Filing and does not modify or update in any way the disclosures made in the Original Filing, except as described above. Amendment No. 2 should be read in conjunction Amendment No. 1 and with the Original Filing and with the Company's subsequent filings with the SEC.

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ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

CONSOLIDATED STATEMENTS OF EARNINGS AND COMPREHENSIVE INCOME

Bio-Techne Corporation and Subsidiaries
(in thousands, except per share data)

	Year Ended June 30, 2019	2018	2017
Net sales	$ 714,006	$ 642,993	$ 563,003
Cost of sales	240,515	210,850	188,462
Gross margin	473,491	432,143	374,541
Operating expenses:			
Selling, general and administrative	264,359	240,636	200,443
Research and development	62,413	55,329	53,514
Total operating expenses	326,772	295,965	253,957
Operating income	146,719	136,178	120,584
Other income (expense):			
Interest expense	(21,705)	(10,188)	(7,361)
Interest income	569	409	304
Other non-operating income (expense), net	(13,568)	(447)	(1,566)
Total other income (expense), net	(34,704)	(10,226)	(8,623)
Earnings before income taxes	112,015	125,952	111,961
Income taxes (benefit)	15,943	(198)	35,875
Net earnings	96,072	126,150	76,086
Other comprehensive income (loss):			
Foreign currency translation adjustments	(4,487)	(1,572)	(3,061)
Unrealized gains (losses) on derivative instruments - cash flow hedges, net of tax of $2,921 in FY19	(9,537)	-	-
Unrealized gains (losses) on available-for-sale investments, net of tax of $398 in FY18 and $(6,501) in FY17	-	5,693	24,531
Other comprehensive income (loss)	(14,024)	4,121	21,470
Comprehensive income	$ 82,048	130,271	$ 97,556
Earnings per share:			
Basic	$ 2.54	$ 3.36	$ 2.04
Diluted	$ 2.47	$ 3.31	$ 2.03
Weighted average common shares outstanding:			
Basic	37,781	37,476	37,313
Diluted	38,892	38,055	37,500

See Notes to Consolidated Financial Statements.

CONSOLIDATED BALANCE SHEETS

Bio-Techne Corporation and Subsidiaries

(in thousands, except share and per share data)

	June 30, 2019	June 30, 2018
ASSETS		
Current assets:		
Cash and cash equivalents	$ 100,886	$ 121,990
Short-term available-for-sale investments	65,147	59,764
Accounts receivable, less allowance for doubtful accounts of$980 and $839, respectively	137,466	120,296
Inventories	91,050	85,648
Other current assets	18,058	10,668
Total current assets	412,607	398,366
Property and equipment, net	154,039	145,348
Goodwill	732,667	597,890
Intangible assets, net	579,429	446,332
Other assets	5,668	5,266
Total assets	$ 1,884,410	$ 1,593,202
LIABILITIES AND SHAREHOLDERS' EQUITY		
Current liabilities:		
Trade accounts payable	$ 16,210	$ 18,452
Salaries, wages and related accruals	28,638	23,710
Accrued expenses	26,389	20,361
Contract liabilities	9,084	8,109
Income taxes payable	5,764	8,878
Contingent consideration payable	3,400	-
Current portion of long-term debt obligations	12,500	-
Total current liabilities	101,985	79,510
Deferred income taxes	89,754	86,293
Long-term debt obligations	492,660	339,000
Long-term contingent consideration payable	9,200	-
Other long-term liabilities	25,222	9,338
Shareholders' equity:		
Undesignated capital stock, no par; authorized 5,000,000 shares; none issued or outstanding	-	-
Common stock, par value $.01 a share; authorized 100,000,000 shares; issued and outstanding 37,934,040 and 37,607,500 shares, respectively	379	376
Additional paid-in capital	316,797	246,568
Retained earnings	931,934	876,931
Accumulated other comprehensive loss	(83,521)	(44,814)
Total shareholders' equity	1,165,589	1,079,061
Total liabilities and shareholders' equity	$ 1,884,410	$ 1,593,202

See Notes to Consolidated Financial Statements.

CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY
Bio-Techne Corporation and Subsidiaries
(in thousands)

	Common Stock		*Additional Paid-in Capital*	*Retained Earnings*	*Accumulated Other Comprehensive Income(Loss)*	*Total*
	Shares	*Amount*				
Balances at June 30, 2016	37,254	$ 372	$ 178,760	$ 770,553	$ (70,405)	$ 879,280
Net earnings				76,086		76,086
Other comprehensive income (loss)					21,470	21,470
Surrender and retirement of stock to exercise options	(3)	-	(275)			(275)
Common stock issued for exercise of options	63	2	4,509			4,511
Common stock issued for restricted stock awards	31	-	-	(287)		(287)
Cash dividends				(47,325)		(47,325)
Stock-based compensation expense			14,418			14,418
Tax benefit from exercise of stock options			514			514
Common stock issued to employee stock purchase plan	11	-	1,022			1,022
Employee stock purchase plan expense			213			213
Balances at June 30, 2017	37,356	$ 374	$ 199,161	$ 799,027	$ (48,935)	$ 949,627
Net earnings				126,150		126,150
Other comprehensive income (loss)					4,121	4,121
Common stock issued for exercise of options	204	2	17,661			17,663
Common stock issued for restricted stock awards	34	-	-	(273)		(273)
Cash dividends		-		(47,973)		(47,973)
Stock-based compensation expense			27,959			27,959
Common stock issued to employee stock purchase plan	14	-	1,506			1,506
Employee stock purchase plan expense			281			281
Balances at June 30, 2018	37,608	$ 376	$ 246,568	$ 876,931	$ (44,814)	$ 1,079,061
Cumulative effect adjustments due to adoption of new accounting standards and other				25,276	(24,682)	594
Net earnings				96,072		96,072
Other comprehensive income (loss)					(14,024)	(14,024)
Share repurchases	(95)	(1)		(15,404)		(15,405)
Common stock issued for exercise of options	382	4	36,272			36,276
Common stock issued for restricted stock awards	29	-		(2,575)		(2,575)
Cash dividends				(48,366)		(48,364)
Stock-based compensation expense			31,775			31,775
Common stock issued to employee stock purchase plan	10	-	1,676			1,676
Employee stock purchase plan expense			505			505
Balances at June 30, 2019	37,934	$ 379	$ 316,797	$ 931,934	$ (83,521)	$ 1,165,589

See Notes to Consolidated Financial Statements.

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CONSOLIDATED STATEMENTS OF CASH FLOWS
Bio-Techne Corporation and Subsidiaries
(in thousands)

	Year Ended June 30, 2019	2018	2017
Cash flows from operating activities:			
Net earnings	$ 96,072	$ 126,150	$ 76,086
Adjustments to reconcile net earnings to net cash provided by operating activities:			
Depreciation and amortization	78,171	64,463	60,036
Costs recognized on sale of acquired inventory	3,739	2,455	3,037
Deferred income taxes	(13,582)	(46,716)	(3,433)
Stock-based compensation expense	32,280	28,240	14,631
Fair value adjustment to contingent consideration payable	(2,000)	20,100	18,400
Contingent consideration payments	-	(26,600)	(11,800)
Gain on investment, net	(3,702)	(397)	-
Fair value adjustment on available for sale investments	16,067	-	-
Other operating activity	2,325	776	2,215
Change in operating assets and liabilities, net of acquisitions:			
Trade accounts and other receivables	(15,000)	(2,700)	(19,686)
Inventories	(13,647)	(13,327)	(732)
Prepaid expenses	(698)	2,782	(2,088)
Trade accounts payable and accrued expenses	6,101	5,026	5,695
Salaries, wages and related accruals	5,013	(89)	661
Income taxes payable	(9,520)	10,204	699
Net cash provided by operating activities	181,619	170,367	143,721
Cash flows from investing activities:			
Proceeds from sale and maturities of available-for-sale investments	21,579	36,390	6,079
Purchase of available-for-sale investments	(43,475)	(8,571)	(3,069)
Additions to property and equipment	(25,411)	(20,934)	(15,179)
Acquisitions, net of cash acquired	(289,492)	(67,851)	(253,785)
Investment in unconsolidated entity	-	21,574	(40,000)
Other investing activities	-	680	-
Net cash used in investing activities	(336,799)	(38,712)	(305,954)
Cash flows from financing activities:			
Cash dividends	(48,364)	(47,973)	(47,325)
Proceeds from stock option exercises	37,950	19,170	5,257
Re-purchases of common stock	(15,405)	-	-
Excess tax benefit from stock option exercises	-	-	514
Borrowings under line-of-credit agreement	580,000	55,000	368,500
Payments on line-of-credit	(413,500)	(59,500)	(116,500)
Contingent consideration payments	-	(61,900)	(20,316)
Other financing activities	(6,297)	(3,985)	(1,017)
Net cash provided by (used in) financing activities	134,384	(99,188)	189,113
Effect of exchange rate changes on cash and cash equivalents	(308)	(2,089)	495
Net change in cash and cash equivalents	(21,104)	30,378	27,375
Cash and cash equivalents at beginning of year	121,990	91,612	64,237
Cash and cash equivalents at end of year	$ 100,886	$ 121,990	$ 91,612

See Notes to Consolidated Financial Statements.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
Bio-Techne Corporation and Subsidiaries

Years ended June 30, 2019, 2018 and 2017

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

Description of business: Bio-Techne and its subsidiaries, collectively doing business as Bio-Techne Corporation (the Company), develop, manufacture and sell life science reagents, instruments and services for the research and clinical diagnostic markets worldwide. With our deep product portfolio and application expertise, we sell integral components of scientific investigations into biological processes and molecular diagnostics, revealing the nature, diagnosis, etiology and progression of specific diseases. Our products aid in drug discovery efforts and provide the means for accurate clinical tests and diagnoses.

Use of estimates: The preparation of consolidated financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosures of contingent assets and liabilities at the date of the consolidated financial statements, and the reported amounts of revenues and expenses during the reporting period. These estimates include the valuation of accounts receivable, available-for-sale investments, inventory, intangible assets, contingent consideration, stock-based compensation and income taxes. Actual results could differ from these estimates.

Principles of consolidation: The consolidated financial statements include the accounts of the Company and its wholly-owned subsidiaries. All intercompany accounts and transactions have been eliminated.

Translation of foreign financial statements: Assets and liabilities of the Company's foreign operations are translated at year-end rates of exchange and the resulting gains and losses arising from the translation of net assets located outside the U.S. are recorded as other comprehensive income (loss) on the consolidated statements of earnings and comprehensive income. The cumulative translation adjustment is a component of accumulated other comprehensive loss on the consolidated balance sheets. Foreign statements of earnings are translated at the average rate of exchange for the year. Foreign currency transaction gains and losses are included in other non-operating expense in the consolidated statements of earnings and comprehensive income.

Revenue recognition: The Company adopted *ASC 606 - Revenue from Contracts with Customers* on July 1, 2018 using the modified retrospective transition approach. ASC 606 provides revenue recognition guidance for any entity that enters into contracts with customers to transfer goods or services or enters into contracts for the transfer of non-financial assets, unless those contracts are within the scope of other accounting standards. The core principle of ASC 606 is that revenue should be recognized to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. Refer to the *Recently Adopted Accounting Pronouncements* section of Note 1 for additional information regarding our adoption of ASC 606 and and Note 2 for additional information regarding our revenue recognition policy under *ASC 606*.

Research and development: Research and development expenditures are expensed as incurred. Development activities generally relate to creating new products, improving or creating variations of existing products, or modifying existing products to meet new applications.

Advertising costs: Advertising expenses were $4.1 million, $3.8 million, and $4.5 million for fiscal 2019, 2018, and 2017 respectively. The Company expenses advertising expenses as incurred.

Income taxes: The Company uses the asset and liability method of accounting for income taxes. Deferred tax assets and liabilities are recognized to record the income tax effect of temporary differences between the tax basis and financial reporting basis of assets and liabilities. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date. Tax positions taken or expected to be taken in a tax return are recognized in the financial statements when it is more likely than not that the position would be sustained upon examination by tax authorities. A recognized tax position is then measured at the largest amount of benefit that is greater than fifty percent likely of being realized upon ultimate settlement. The Company recognizes interest and penalties related to unrecognized tax benefits in income tax expense.

See Note 11 for additional information regarding income taxes.

Comprehensive income: Comprehensive income includes charges and credits to shareholders' equity that are not the result of transactions with shareholders. Our total comprehensive income consists of net income, unrealized gains and losses on cash flow hedges, and foreign currency translation adjustments. The items of comprehensive income, with the exception of net income, are included in accumulated other comprehensive loss in the consolidated balance sheets and statements of shareholders' equity.

Cash and cash equivalents: Cash and cash equivalents include cash on hand and highly-liquid investments with original maturities of three months or less.

Available-for-sale investments: Available-for-sale investments consist of debt instruments with original maturities of generally three months to six months and equity securities. Available-for-sale investments are recorded based on trade-date. The Company considers all of its marketable securities available-for-sale and reports them at fair value. Unrealized gains and losses on available-for-sale securities are included within other income (expense) in fiscal 2019 as the Company adopted ASU 2018-02 on July 1, 2018, as further described in the *Recently Adopted Accounting Pronouncements* section of Note 1. Unrealized gains or losses on available-for-sale securities were recorded within comprehensive income in fiscal years 2018 and 2017.

Trade accounts receivable: Trade accounts receivable are initially recorded at the invoiced amount upon the sale of goods or services to customers, and they do not bear interest. They are stated net of allowances for doubtful accounts, which represent estimated losses resulting from the inability of customers to make the required payments. When determining the allowances for doubtful accounts, we take several factors into consideration, including the overall composition of accounts receivable aging, our prior history of accounts receivable write-offs, the type of customer and our day-to-day knowledge of specific customers. Changes in the allowances for doubtful accounts are included in selling, general and administrative (SG&A) expense in our consolidated statements of earnings and comprehensive income. The point at which uncollected accounts are written off varies by type of customer.

Inventories: Inventories are stated at the lower of cost (first-in, first-out method) or net realizable value. The Company regularly reviews inventory on hand for slow-moving and obsolete inventory, inventory not meeting quality control standards and inventory subject to expiration.

For certain proteins, antibodies, and chemically based manufactured products, the Company produces larger batches of established products than current sales requirements due to economies of scale through a highly controlled manufacturing process. Accordingly, the manufacturing process for these products has and will continue to produce quantities in excess of forecasted usage. The Company forecasts usage for its products based on several factors including historical demand, current market dynamics, and technological advances. The Company forecasts product usage on an individual product level for a period that is consistent with our ability to reasonably forecast inventory usage for that product. There have been no material changes to the Company's estimates of the net realizable value for excess and obsolete inventory or other types of inventory reserve and inventory cost adjustments in the fiscal years presented. Additionally, current and historical reserves recorded to reduce the cost of inventory to its net realizable value become part of the new cost basis for the inventory item in accordance with *ASC 330 - Inventory*.

Property and equipment: Property and equipment are recorded at cost. Equipment is depreciated using the straight-line method over an estimated useful life of 3 to 5 years. Buildings, building improvements and leasehold improvements are amortized over estimated useful lives of 5 to 40 years.

Contingent Consideration: Contingent Consideration relates to the potential payment for an acquisition that is contingent upon the achievement of the acquired business meeting certain product development milestones and/or certain financial performance milestones. The Company records contingent consideration at fair value at the date of acquisition based on the consideration expected to be transferred. For potential payments related to financial performance milestones, we use a real option model in calculating the fair value of the contingent consideration liabilities. The assumptions utilized in the calculation based on financial performance milestones include projected revenue and/or EBITDA amounts, volatility and discount rates. For potential payments related to product development milestones, we estimated the fair value based on the probability of achievement of such milestones. The assumptions utilized in the calculation of the acquisition date fair value include probability of success and the discount rates. Contingent consideration involves certain assumptions requiring significant judgment and actual results may differ from assumed and estimated amounts. Contingent consideration is remeasured each reporting period, and subsequent changes in fair value, including accretion for the passage of time, are recognized within selling, general and administrative in the consolidated statement of earnings and comprehensive income

Intangibles assets: Intangible assets are stated at historical cost less accumulated amortization. Amortization expense is generally determined on the straight-line basis over periods ranging from 1 year to 20 years. Each reporting period, we evaluate the remaining useful lives of our amortizable intangibles to determine whether events or circumstances warrant a revision to the remaining period of amortization. If our estimate of an asset's remaining useful life is revised, the remaining carrying amount of the asset is amortized prospectively over the revised remaining useful life. In the current year, the Company has identified no such events.

Impairment of long-lived assets and amortizable intangibles: We evaluate the recoverability of property, plant, equipment and amortizable intangibles whenever events or changes in circumstances indicate that an asset's carrying amount may not be recoverable. Such circumstances could include, but are not limited to, (1) a significant decrease in the market value of an asset, (2) a significant adverse change in the extent or manner in which an asset is used or in its physical condition, or (3) an accumulation of costs significantly in excess of the amount originally expected for the acquisition or construction of an asset. We compare the carrying amount of the asset to the estimated undiscounted future cash flows associated with it. If the sum of the expected future net cash flows is less than the carrying value of the asset being evaluated, an impairment loss would be recognized. The impairment loss would be calculated as the amount by which the carrying value of the asset exceeds the fair value of the asset. As quoted market prices are not available for the majority of our assets, the estimate of fair value is based on various valuation techniques, including the discounted value of estimated future cash flows.

The evaluation of asset impairment requires us to make assumptions about future cash flows over the life of the asset being evaluated. These assumptions require significant judgment and actual results may differ from assumed and estimated amounts. No triggering events were identified and no impairments were recorded for property, plant, and equipment or amortizable intangibles during fiscal years 2017, 2018, and 2019.

Impairment of goodwill: We evaluate the carrying value of goodwill during the fourth quarter each year and between annual evaluations if events occur or circumstances change that would indicate a possible impairment. Such circumstances could include, but are not limited to, (1) a significant adverse change in legal factors or in business climate, (2) unanticipated competition, (3) an adverse action or assessment by a regulator, or (4) an adverse change in market conditions that are indicative of a decline in the fair value of the assets.

To analyze goodwill for impairment, we must assign our goodwill to individual reporting units. Identification of reporting units includes an analysis of the components that comprise each of our operating segments, which considers, among other things, the manner in which we operate our business and the availability of discrete financial information. Components of an operating segment are aggregated to form one reporting unit if the components have similar economic characteristics. We periodically review our reporting units to ensure that they continue to reflect the manner in which we operate our business.

2019 *Goodwill Impairment Analyses*

At the beginning of the quarter ended March 31, 2019, the Company realigned the management of certain business processes between reporting units within the same reportable segment. A goodwill allocation was performed between the impacted reporting units based on the relative fair value of the processes realigned. In conjunction with the realignment, a quantitative goodwill impairment assessment was performed both prior to and subsequent to the realignment. The quantitative assessment indicated that all of the impacted reporting units had substantial headroom both prior to and subsequent to the realignment.

Because our quantitative analysis performed as of January 1, 2019 included all of our reporting units, except for our recent acquisition, Exosome, which is a separate reporting unit that was not impacted by the business process realignment, the summation of the calculated reporting units' fair values combined with the fair value of the Exosome acquisition, was compared to our consolidated fair value, as indicated by our market capitalization, to evaluate the reasonableness of our calculations.

The quantitative assessments completed as of January 1, 2019 indicated that all tested reporting units had a substantial amount of headroom. Changes in the reporting unit's results, forecast assumptions and estimates could materially affect the estimation of the fair value of the reporting units.

The Company has elected April 1 as our annual goodwill impairment date for the Exosome reporting unit. The Company has historically completed our goodwill impairment assessment of our legacy reporting units as of June 30. To better align with our annual internal planning and operating cycle and the underlying changes in our organizational model and business, we changed our annual goodwill impairment assessment for all legacy reporting units to be as of April 1. Given the substantial headroom in our legacy reporting units and the time period the assessment was performed relative to the most recent quantitative analysis, management does not consider the change in our annual impairment assessment to be material to the consolidated financial statements or to constitute a material change in the application of our goodwill accounting principle.

In conducting our annual goodwill impairment test, we elected to perform a qualitative assessment to determine whether changes in events or circumstances since our most recent quantitative test for goodwill impairment indicated that it is more likely than not that the fair value of a reporting unit is less than its carrying amount.

Based on its annual analysis, the Company determined there was no indication of impairment of goodwill. Further, no triggering events or items beyond the realignment discussed above were identified in the year ended June 30, 2019 that would require an additional goodwill impairment assessment beyond our required annual goodwill impairment assessment.

2018 and 2017 *Goodwill Impairment Analyses*

In completing our 2018 and 2017 annual goodwill impairment analyses, we elected to perform a quantitative assessment for all of our reporting units. A quantitative assessment involves comparing the carrying value of the reporting unit, including goodwill, to its estimated fair value. Carrying value is based on the assets and liabilities associated with the operations of the reporting unit, which often requires the allocation of shared or corporate items among reporting units. In accordance with ASU 2017-04, a goodwill impairment charge is recorded for the amount by which the carrying value of a reporting unit exceeds the fair value of the reporting unit. In determining the fair values of our reporting units, we utilized the income approach. The income approach is a valuation technique under which we estimated future cash flows using the reporting unit’s financial forecast from the perspective of an unrelated market participant. Using historical trending and internal forecasting techniques, we projected revenue and applied our fixed and variable cost experience rates to the projected revenue to arrive at the future cash flows. A terminal value was then applied to the projected cash flow stream. Future estimated cash flows were discounted to their present value to calculate the estimated fair value. The discount rate used was the value-weighted average of our estimated cost of capital derived using both known and estimated customary market metrics. In determining the estimated fair value of a reporting unit, we were required to estimate a number of factors, including projected operating results, terminal growth rates, economic conditions, anticipated future cash flows, the discount rate and the allocation of shared or corporate items.

The quantitative assessment completed as of June 30, 2018 and 2017 indicated that all of the reporting units had a substantial amount of headroom. This impairment assessment is sensitive to changes in forecasted cash flows, as well as our selected discount rate. Changes in the reporting unit’s results, forecast assumptions and estimates could materially affect the estimation of the fair value of the reporting units.

There has been no impairment of goodwill since the adoption of Financial Accounting Standards Board (“FASB”) ASC 350 guidance for goodwill and other intangibles on July 1, 2002.

Investments in unconsolidated entities: The Company periodically invests in the equity of start-up and early development stage companies. The accounting treatment of each investment (cost method or equity method) is dependent upon a number of factors, including, but not limited to, the Company's share in the equity of the investee and the Company's ability to exercise significant influence over the operating and financial policies of the investee.

Other Significant Accounting Policies

The following table includes a reference to additional significant accounting policies that are described in other notes to the financial statements, including the note number:

Policy	Note
Fair value measurements	5
Earnings per share	9
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Recently Adopted Accounting Pronouncements

In May 2014, the FASB issued ASU No. 2014-09, *Revenue from Contracts with Customers* (ASC 606). On July 1, 2018, the Company adopted ASC 606 using the modified retrospective method for all contracts. Results for reporting periods beginning July 1, 2018 are presented under ASC 606, while prior period amounts were not adjusted and continue to be reported in accordance with the Company's historic accounting under Topic 605, *Revenue Recognition*. The impact of the adoption of*ASC 606* was not material to the Company's consolidated financial statements and therefore the periods reported under*ASC 606* and *ASC 605* are considered comparable in all material respects.

In January 2016, the FASB issued ASU No. 2016-01 *Recognition and Measurement of Financial Assets and Financial Liabilities*. The standard is intended to improve the recognition, measurement, presentation and disclosure of financial instruments. Among other changes, there will no longer be an available-for-sale classification for which changes in fair value are currently reported in other comprehensive income for equity securities with readily determinable fair values. Equity investments with readily determinable fair values will be measured at fair value with changes in fair value recognized in net income. ASU 2016-01 was effective for us on July 1, 2018 which required a cumulative effect adjustment to opening retained earnings to be recorded for equity investments with readily determinable fair values. As of the adoption date, we held publicly traded equity investments with a fair value of $54.3 million in a net unrealized gain position of $35.4 million, and having an associated deferred tax liability of $8.3 million. We recorded a cumulative-effect adjustment of $27.1 million to decrease Accumulated Other Comprehensive Income (AOCI) with a corresponding increase to retained earnings for the amount of unrealized gains, net of tax as of the beginning of fiscal year 2019. As a result of the implementation of ASU 2016-01, effective on July 1, 2018 unrealized gains and losses in equity investments with readily determinable fair values are recorded on the Consolidated Statement of Income within other (expense) income. We recorded a gain in other (expense) income of $12.3 million and $2.9 million for the quarter and nine month period ended March 31, 2019 as a result of adopting this standard. The implementation of ASU 2016-01 is expected to increase volatility in our net income as the volatility previously recorded in Other Comprehensive Income (OCI) related to changes in the fair market value of available-for-sale equity investments will now be reflected in net income effective with the adoption date.

In February 2018, the FASB issued ASU No. 2018-02, *Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income*. The standard allows companies to make an election to reclassify from Accumulated Other Comprehensive Income (AOCI) to retained earnings the stranded tax effects resulting from the Tax Cuts and Jobs Act of 2017. This ASU is effective for annual and interim periods beginning after December 15, 2018, which for us is July 1, 2019. Early adoption is permitted. We elected to early adopt ASU 2018-02 on July 1, 2018. We use a specific identification approach to release the income tax effects in AOCI. As a result of adopting this standard, we recorded a cumulative effect adjustment to increase AOCI by $2.4 million with a corresponding decrease to retained earnings. We recorded the impacts of adopting ASU 2018-02 prior to recording the impacts of adopting ASU 2016-01 and included state income tax related effects in the amounts reclassified to retained earnings.

The following table presents a summary of cumulative effect adjustments to retained earnings due to the adoption of new accounting standards on July 1, 2018 as noted above:

	Cumulative Effect Adjustments to Retained Earnings on July 1, 2018 Increase / (Decrease)
Cumulative effect adjustment to retained earnings due to the adoption of the following new accounting standards:	
ASU 2014-09	$ 98
ASU 2016-01	27,053
ASU 2018-02	(2,371)
Net cumulative effect adjustments to retained earnings on July 1, 2018 due to the adoption of new accounting standards	$ 24,780

In January 2017, the FASB issued ASU No. 2017-01, *Clarifying the Definition of a Business*. The standard revises the definition of a business, which affects many areas of accounting such as business combinations and disposals and goodwill impairment. The revised definition of a business will likely result in more acquisitions being accounted for as asset acquisitions, as opposed to business combinations. We adopted this standard on July 1, 2018, applying the guidance to transactions occurring on or after this date.

In August 2017, the FASB issued ASU No. 2017-12, *Targeted Improvements to Accounting for Hedging Activities*. The standard changes the designation and measurement guidance for qualifying hedging relationships to better align financial reporting to risk management activities. As part of the guidance, the entire change in fair value of a qualifying hedging instrument will be recorded within other comprehensive income which is then reclassified into earnings in the same period or periods during which the hedged item impacts earnings. Additionally, the gain or loss resulting from the hedging activity will be presented in the same income statement line item as the hedged item. The standard is effective for interim and annual reporting periods in fiscal years beginning after December 15, 2018, which for us is July 1, 2019. Early adoption is permitted. We elected to early adopt ASU 2017-12 on October 1, 2018, prior to the Company entering into cash flow hedges as described in Note 5. The adoption of this standard did not have a material impact on our consolidated financial statements.

Pronouncements Issued but* Not *Yet Adopted

In February 2016, the FASB issued ASU 2016-02, *Leases (Topic* 842), which amends the existing guidance to require lessees to recognize lease assets and lease liabilities from operating leases on the balance sheet. This ASU is effective using the modified retrospective approach for annual periods and interim periods within those annual periods beginning after December 15, 2018, which for us is July 1, 2019. Early adoption is permitted. The FASB has issued narrow codification improvements to *Leases (Topic 842)* through *ASU No. 2018-10* and *ASU 2019-01*. Additionally, the FASB issued *ASU 2018-11*, allowing an entity to elect a transition method where they do not recast prior periods presented in the financial statements in the period of adoption. The Company plans to elect the transition method allowed for under ASU 2018-11 when adopting *Leases (Topic 842)*. The Company has completed detailed reviews over all lease agreements, assessed internal control impacts for ongoing lease accounting changes, and completed internal control testing and validation procedures over our new lease accounting software. The Company does not expect this standard to have a material impact on its consolidated statements of earnings and comprehensive income. The Company does expect an increase of approximately $82 million for lease assets and liabilities and an immaterial impact to retained earnings in our Consolidated Balance Sheet.

In June 2016, the FASB issued ASU 2016-13, *Financial Instruments - Credit Losses (Topic* 326*), Measurement of Credit Losses on Financial Instruments.* The amendment in this update replace the incurred loss impairment methodology in current GAAP with a methodology that reflects expected credit losses on instruments within its scope, including trade and loan receivables and available-for-sale debt securities. This update is intended to provide financial statement users with more decision-useful information about the expected credit losses. This ASU is effective for annual periods and interim periods for those annual periods beginning after December 15, 2019, which for us is July 1, 2020. Entities may early adopt beginning after December 15, 2018. We are currently evaluating the impact of the adoption of ASU 2016-13 on our consolidated financial statements.

In August 2018, the FASB issued ASU No. 2018-15, *Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract*. The standard aligns the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software. The accounting for the service element of a hosting arrangement that is a service contract is not affected by the new standard. This ASU is effective for annual periods and interim periods for those annual periods beginning after December 15, 2019, which for us is July 1, 2020 and may be adopted retrospectively or prospectively to eligible costs incurred on or after the date the guidance is first applied. We are currently evaluating the impact of the adoption of ASU 2018-15 on our consolidated financial statements and anticipate that we will adopt the standard prospectively.

Note 2. Revenue Recognition:

Consumables revenues consist of single-use products and are recognized at a point in time following the transfer of control of such products to the customer, which generally occurs upon shipment. Instruments revenues typically consist of longer-lived assets that, for the substantial majority of sales, are recognized at a point in time in a manner similar to consumables. The vast majority of service revenues consist of extended warranty contracts, post contract support (“PCS”), and custom development projects that are recognized over time as either the customers receive and consume the benefits of such services simultaneously or the underlying asset being developed has no alternative use for the Company at contract inception and the Company has an enforceable right to payment for the portion of the performance completed. The remaining service revenues were not material to the period and consist of laboratory services recognized at point in time. Given the Company does not have significant historical experience collecting payments from Medicare or insurance providers, the Company considered the variable consideration for such services to be constrained as it would not be probable that a significant amount of revenue would not need to be reversed in future periods for the services provided. Accordingly, the Company did not record revenue upon completion of the performance obligation, but rather upon cash receipt, which was subsequent to the performance obligation being satisfied. Royalty revenues are based on net sales of the Company’s licensed products by a third party. We recognize royalty revenues in the period the sales occur using third party evidence. The Company has also elected the "right to invoice" practical expedient based on the Company's right to invoice a customer at an amount that approximates the value to the customer and the performance completed to date.

The Company has elected the exemption to not disclose the unfulfilled performance obligations for contracts with an original length of one year or less and the exemption to exclude future performance obligations that are accounted under the sales-based or usage-based royalty guidance. The Company's unfulfilled performance obligations were not material as of June 30, 2019.

Contracts with customers that contain instruments may include multiple performance obligations. For these contracts, the Company allocates the contract’s transaction price to each performance obligation on a relative standalone selling price basis. Allocation of the transaction price is determined at the contracts’ inception.

Payment terms for shipments to end-users are generally net 30 days. Payment terms for distributor shipments may range from 30 to 90 days. Service arrangements commonly call for payments in advance of performing the work (e.g. extended warranty and service contracts), upon completion of the service (e.g. custom development manufacturing) or a mix of both.

Contract assets include revenues recognized in advance of billings. Contract assets are included within other current assets in the accompanying balance sheet as the amount of time expected to lapse until the company's right to consideration becomes unconditional is less than one year. We elected the practical expedient allowing us to expense costs of obtaining contracts less than one year that would otherwise be capitalized and amortized over the contract period. Contract assets as of June 30, 2019 are not material.

Contract liabilities include billings in excess of revenues recognized, such as those resulting from customer advances and deposits and unearned revenue on warranty contracts. Contract liabilities as of June 30, 2019 and June 30, 2018 were approximately $10.4 million and $9.3 million, respectively. Contract liabilities as of June 30, 2018 subsequently recognized as revenue during the year ended June 30, 2019 were approximately $7.0 million. Contract liabilities in excess of one year are included in Other long-term liabilities on the balance sheet.

Any claims for credit or return of goods must be made within 10 days of receipt. Revenues are reduced to reflect estimated credits and returns. Although the amounts recorded for these revenue deductions are dependent on estimates and assumptions, historically our adjustments to actual results have not been material.

Taxes collected from customers relating to product sales and remitted to governmental authorities are excluded from revenue. Amounts billed to customers for shipping and handling are included in revenue, while the related shipping and handling costs are reflected in cost of products. We have elected the practical expedient that allows us to account for shipping and handling activities that occur after the customer has obtained control of a good as a fulfillment cost, and we accrue costs of shipping and handling when the related revenue is recognized.

The following tables present our disaggregated revenue for the periods presented.

Revenue by type is as follows:

	Year ended June 30, 2019		2018		2017
Consumables	$	588,979	$ 534,738	$	476,541
Instruments		67,538	61,784		47,751
Services		38,050	34,137		23,652
Total product and services revenue, net		694,567	$ 630,659		547,944
Royalty revenues		19,439	12,334		15,059
Total revenues, net	$	714,006	$ 642,993	$	563,003

Revenue by geography is as follows:

	Year Ended June 30, 2019		2018		2017
Net sales:					
United States	$	391,191	$ 346,293	$	313,195
EMEA, excluding U.K.		155,821	148,599		125,126
U.K.		34,975	33,704		28,401
APAC, excluding Greater China		52,913	48,392		41,463
Greater China		57,799	47,950		39,078
Rest of world		21,307	18,055		15,740
Total external sales	$	714,006	$ 642,993	$	563,003

Note* 3. *Supplemental Balance Sheet and Cash Flow Information:

Available-For-Sale Investments:

The fair value of the Company's available-for-sale investments as of June 30, 2019 and June 30, 2018 were $38.2 million and $54.3 million, respectively. The decrease was due to year-over-year decreases in the stock price of CCXI, from $13.17 per share at June 30, 2018 to $9.30 per share at June 30, 2019 resulting in a $16.1 million decrease in the fair value of the Company's investment in CCXI. The amortized cost basis of the Company's investment in CCXI was $18.8 million as of June 30, 2019 and 2018.

Inventories:

Inventories consist of (in thousands):

	June 30, 2019	June 30, 2018
Raw materials	$ 40,913	$ 30,956
Finished goods[(1)]	53,376	54,692
Inventories, net	$ 94,289	$ 85,648

(1) Finished goods inventory of $3,239 is included within other long-term assets in the June 30, 2019 Balance Sheet as it forecasted to be sold after the 12 months subsequent to the consolidated balance sheet date.

Property and Equipment:

Property and equipment consist of (in thousands):

	June 30, 2019	June 30, 2018
Cost:		
Land	$ 7,065	$ 7,065
Buildings and improvements	175,019	170,110
Machinery, equipment and other	124,233	107,625
Property and equipment	306,317	284,800
Accumulated depreciation and amortization	(152,278)	(139,452)
Property and equipment, net	$ 154,039	$ 145,348

Intangibles assets were comprised of the following (in thousands):

	Useful Life (years)	June 30, 2019	June 30, 2018
Developed technology	9 - 15	$ 435,679	$ 305,303
Trade names	2 - 20	147,296	89,608
Customer relationships	7 - 16	214,320	212,228
Patents	10	2,133	1,401
Intangible assets		799,428	608,540
Accumulated amortization		(219,999)	(162,208)
Intangibles assets, net		$ 579,429	$ 446,332

Changes to the carrying amount of net intangible assets consist of (in thousands):

	June 30, 2019	June 30, 2018
Beginning balance	$ 446,332	$ 452,042
Acquisitions (Note 4)	191,956	40,673
Other additions	633	908
Amortization expense	(58,715)	(47,076)
Currency translation	(777)	(215)
Ending balance	$ 579,429	$ 446,332

Amortization expense related to technologies included in cost of sales was $33.3 million, $25.3 million, and $23.1 million in fiscal 2019, 2018, and 2017, respectively. Amortization expense related to trade names, customer relationships, non-compete agreements, and patents included in selling, general and administrative expense was $25.4 million, $21.6 million, and $21.3 million, in fiscal 2019, 2018, and 2017 respectively.

The estimated future amortization expense for intangible assets as of June 30, 2019 is as follows (in thousands):

2020	$ 59,905
2021	59,557
2022	57,905
2023	56,031
2024	53,464
Thereafter	292,567
Total	$ 579,429

Changes in goodwill by reportable segment and in total consist of (in thousands):

	Protein Sciences	Diagnostics & Genomics	Total
June 30, 2017	$ 331,789	$ 247,237	$ 579,026
Acquisitions (Note 4)	16,186	2,910	19,096
Currency translation	(56)	(176)	(232)
June 30, 2018	$ 347,918	$ 249,972	$ 597,890
Acquisitions (Note 4)	30,939	105,362	136,301
Currency translation	(1,450)	(74)	(1,524)
June 30, 2019	$ 377,407	$ 355,260	$ 732,667

Other Assets:

Other assets consist of (in thousands):

	June 30,	
	2019	2018
Investments	$ -	$ 2,606
Other	5,668	2,660
Other long-term assets	$ 5,668	$ 5,266

As of June 30, 2019, the Company had $5.7 million of other assets compared to $5.3 million as of June 30, 2018. The increase was attributable to finished goods inventory of $3.2 million included within other long-term assets in the June 30, 2019 Balance Sheet as it forecasted to be sold after the 12 months subsequent to the consolidated balance sheet date. This increase was partially offset by the reduction in investments related to our purchase of the outstanding shares of B-MoGen discussed in note 4 and the reclassification of the amounts held in escrow from our Astute investment classified as a long-term asset as of June 30, 2018 to a short-term asset as of June 30, 2019 as we are expected to receive the final proceeds within the next 12 months.

Supplemental Cash Flow Information:

Supplemental cash flow information was as follows (in thousands):

	Year Ended June 30,		
	2019	2018	2017
Income taxes paid	$ 36,814	$ 35,076	$ 42,900
Interest paid	21,497	9,844	7,452
Non-cash activities:			
Acquisition-related liabilities (1)	12,600	1,396	32,856

(1) Consists of holdback payments due at future dates and liabilities for contingent consideration. Further information regarding liabilities for contingent consideration can be found in Notes 4 and 5.

Note 4. Acquisitions:

We periodically complete business combinations that align with our business strategy. Acquisitions are accounted for using the acquisition method of accounting, which requires, among other things, that assets acquired and liabilities assumed be recognized at fair value as of the acquisition date and that the results of operations of each acquired business be included in our consolidated statements of comprehensive income from their respective dates of acquisitions. Acquisition costs are recorded in selling, general and administrative expenses as incurred.

2019 *Acquisitions*

Quad Technologies

On July 2, 2018, the Company acquired QT Holdings Corporation (Quad) for approximately $20.5 million, net of cash acquired, plus contingent consideration of up to $51.0 million, subject to certain product development milestones and revenue thresholds. The goodwill recorded as a result of the acquisition represents the strategic benefits of growing the Company's product portfolio and the expected revenue growth from increased market penetration. The goodwill is not deductible for income tax purposes. The business became part of the Protein Sciences reportable segment in the first quarter of fiscal year 2019. Purchase accounting was finalized during the fourth quarter of fiscal 2019. The preliminary and final fair values of the assets acquired and liabilities assumed are as follows (in thousands):

	Preliminary Allocation at Acquisition Date	*Adjustments to Fair Value*	*Final Opening Balance Sheet Allocation*
Current assets, net of cash	$ 36		$ 36
Equipment and other long-term assets	284	(56)	228
Intangible assets:			
Developed technology	20,000	(7,744)	12,256
Goodwill	9,790	4,691	14,481
Total assets acquired	30,110	(3,109)	27,001
Liabilities	765	(469)	296
Deferred income taxes, net	3,741	(2,798)	943
Net assets acquired	$ 25,604	$ 158	$ 25,762
Cash paid, net of cash acquired	$ 20,404	$ 58	$ 20,462
Fair value of contingent consideration	5,200	100	5,300
Net assets acquired	$ 25,604	$ 158	$ 25,762

As summarized in the table, there were adjustments totaling $4.7 million to goodwill during the measurement period. These adjustments primarily relate to refinements made to acquired intangible asset cash flow models, an update in the discount rate used in the contingent consideration calculation based on refinements made in the acquired intangible asset cash flow models, and adjustments to preliminary deferred tax amounts based on updated assessments of the applicability of certain NOLs. Tangible assets and liabilities acquired were recorded at fair value on the date of close based on management's assessment. The purchase price allocated to developed technology was estimated based on management's forecasted cash inflows and outflows using a multi-period excess earnings method to calculate the fair value of assets purchased. The developed technology asset is being amortized with the expense reflected in cost of goods sold in the Consolidated Statement of Earnings and Comprehensive Income. The amortization period for intangible assets acquired in fiscal 2019 are 14 years for developed technology. The net deferred income tax liability represents the net amount of the estimated future impact of adjustments for costs to be recognized as intangible asset amortization, which is not deductible for income tax purposes offset by the deferred tax asset for our calculation of acquired net operating losses (NOLs).

Exosome Diagnostics

On August 1, 2018, the Company acquired Exosome Diagnostics, Inc. (ExosomeDx) for approximately $251.6 million, net of cash acquired, plus contingent consideration of up to $325.0 million as follows:

● Up to $250 million if calendar year 2020 EBITA is between $45 million and $58 million or greater.

● Up to $45 million if calendar year 2022 EBITA for a new instrument product is between $54 million and $70 million or greater.

● Up to $30 million if calendar year 2022 EBITA for the remaining business is between $150 million and $190 million or greater.

The goodwill recorded as a result of the acquisition represents the strategic benefits of growing the Company' product portfolio and the expected revenue growth from increased market penetration. The goodwill is not deductible for income tax purposes. The business became part of the Diagnostics and Genomics reportable segment in the first quarter of fiscal year 2019. Purchase accounting was finalized during the fourth quarter of fiscal 2019. The preliminary and final fair values of the assets acquired and liabilities assumed are as follows (in thousands):

	Preliminary Allocation at Acquisition Date	*Adjustments to Fair Value*	*Final Opening Balance Sheet Allocation*
Current assets, net of cash	$ 5,118	(2,507)	$ 2,611
Equipment and other long-term assets	2,212	-	2,212
Intangible assets:			
Developed technology	180,000	(75,000)	105,000
Trade name	-	58,000	58,000
Customer relationships	-	2,300	2,300
Goodwill	96,592	8,770	105,362
Total assets acquired	283,922	(8,437)	275,485
Liabilities	2,624	1,092	3,716
Deferred income taxes, net	27,673	(11,327)	16,346
Net assets acquired	$ 253,625	$ 1,798	$ 255,423
Cash paid, net of cash acquired	$ 251,825	$ (202)	$ 251,623
Fair value of contingent consideration	1,800	2,000	3,800
Net assets acquired	$ 253,625	$ 1,798	$ 255,423

As summarized in the table, there were adjustments totaling $8.8 million to goodwill during the measurement period. As previously disclosed, the intangible value associated with the ExosomeDx trade name and determination of the related estimated useful life was under assessment as part of purchase accounting review. During the period, the Company updated our intangible assessment to include a $58.0 million value for the ExosomeDx trade name. Due to our updated assessments and further refinements in our intangible asset cash flow models, the fair value of the developed technology intangible asset decreased by $75.0 million. When applying our final assumptions in our intangible asset cash flow models to the Company's contingent consideration recorded in the Opening Balance Sheet, the estimated contingent consideration increased by $2.0 million. Additionally, we recorded a Customer Relationships intangible asset of $2.3 million for the established physician network ordering ExosomeDx laboratory services that existed at the acquisition date. Adjustments to the opening balance sheet fair value also included updates to preliminary deferred tax amounts and working capital adjustments, primarily attributable to updates for the net realizable value of certain acquired receivables based on factors existing on the acquisition date.

Tangible assets and liabilities acquired were recorded at fair value on the date of close based on management's assessment. The purchase price allocated to developed technology, trade names, and customer relationships was based on management's forecasted cash inflows and outflows and using either a relief-from-royalty or a multiperiod excess earnings method to calculate the fair value of assets purchased. The preliminary amount recorded for developed technology is being amortized with the expense reflected in cost of goods sold in the Condensed Consolidated Statement of Earnings and Comprehensive Income. Preliminary amortization expense related to trade names, and customer relationships is reflected in selling, general and administrative expenses in the Consolidated Statement of Earnings and Comprehensive Income. The preliminary amortization periods for intangible assets acquired in fiscal 2019 are 15 years for developed technology and trade names, and 14 years for customer relationships. The net deferred income tax liability represents the net amount of the estimated future impact of adjustments for costs to be recognized as intangible asset amortization, which is not deductible for income tax purposes offset by the deferred tax asset for the preliminary calculation of acquired NOLs.

B-MoGen Biotechnologies

On June 4, 2019, the Company acquired the remaining interest in B-MoGen Biotechnologies Inc. (B-MoGen) for approximately $17.5 million, net of cash acquired, plus contingent consideration of up to $38.0 million, subject to certain product development milestones and revenue thresholds. The Company previously held an investment of $1.4 million in B-MoGen and recognized a gain of approximately $3.7 million on the transaction within other non-operating income in the consolidated statements of earnings and comprehensive income representing the adjustment of our historical investment to its fair value. The goodwill recorded as a result of the acquisition represents the strategic benefits of growing the Company's product portfolio and the expected revenue growth from increased market penetration. The goodwill is not deductible for income tax purposes. The business became part of the Protein Sciences reportable segment in the fourth quarter of fiscal year 2019.

Certain estimated fair values are not yet finalized and are subject to change, which could be significant. The Company expects to finalize our purchasing accounting by the end of the second quarter of fiscal year 2020 when we have completed our assessment of the working capital adjustment and we have finalized our income tax assessment of acquired net operating losses (NOLs) with the completion of the stub period tax returns. Amounts for acquired current assets and liabilities, deferred tax liabilities, acquired NOLs, and goodwill also remain subject to change. The preliminary estimated fair values of the assets acquired and liabilities assumed are as follows (in thousands):

	Preliminary Allocation at Acquisition Date
Current assets, net of cash	$ 504
Equipment and other long-term assets	269
Intangible assets:	
Developed technology	14,000
Customer relationships	400
Goodwill	16,457
Total assets acquired	31,630
Liabilities	211
Deferred income taxes, net	3,377
Net assets acquired	$ 28,042
Cash paid, net of cash acquired	$ 17,448
Fair value of contingent consideration	5,500
Fair value of historical investment in B-MoGen	5,094
Net assets acquired	$ 28,042

Tangible assets and liabilities acquired were recorded at fair value on the date of close based on management's assessment. The purchase price allocated to developed technology was estimated based on management's forecasted cash inflows and outflows and using a multi-period excess earnings method to calculate the fair value of assets purchased. The preliminary amount recorded for developed technology is being amortized with the expense reflected in cost of goods sold in the Consolidated Statement of Earnings and Comprehensive Income. The amortization periods for intangible assets acquired in fiscal 2019 are estimated to be 14 years for developed technology. The net deferred income tax liability represents the net amount of the estimated future impact of adjustments for costs to be recognized as intangible asset amortization, which is not deductible for income tax purposes offset by the deferred tax asset for the preliminary calculation of acquired NOLs.

2018 *Acquisitions*

Trevigen

On September 5, 2017 the Company acquired the stock of Trevigen Inc. for approximately $10.6 million, net of cash received. The Company has had a long-standing business relationship with Trevigen as a distributor of its product line. The goodwill recorded as a result of the acquisition represents the strategic benefits of growing the Company’s product portfolio and the expected revenue growth from increased market penetration. The goodwill is not deductible for income tax purposes. The business became part of the Protein Sciences reportable segment in the first quarter of fiscal 2018.

Atlanta Biologicals

On January 2, 2018 the Company acquired the stock of Atlanta Biologicals, Inc. and its affiliated company, Scientific Ventures, Inc., for approximately $51.3 million, net of cash acquired. The transaction was financed through available cash on hand and an additional draw from the Company’s line-of-credit. Atlanta Biologicals fetal bovine serum (FBS) product line strengthens and complements our current tissue culture reagents offering and furthers our efforts to provide more complete solutions to our research customers. The goodwill recorded as a result of the acquisition represents the strategic benefits of growing the Company’s product portfolio and the expected revenue growth from increased market penetration. The goodwill is not deductible for income tax purposes. The business became part of the Protein Sciences reportable segment in the third quarter of fiscal 2018. Purchase accounting was finalized during fiscal 2018.

Tangible assets acquired in the acquisition, net of liabilities assumed, were recorded at fair value on the date of close based on management's assessment. The purchase price allocated to developed technology, trade names, and customer relationships was based on management's forecasted cash inflows and outflows and using a relief-from-royalty and a multi-period excess earnings method to calculate the fair value of assets purchased. The developed technology is being amortized with the expense reflected in cost of goods sold in the Consolidated Statement of Earnings and Comprehensive Income. Amortization expense related to trade names, and customer relationships is reflected in selling, general and administrative expenses in the Consolidated Statement of Earnings and Comprehensive Income. The amortization periods for intangible assets acquired in fiscal 2018 are 13 years for developed technology, 12 years for customer relationships, and 15 years for trade names. The deferred income tax liability represents the net amount of the estimated future impact of adjustments for costs to be recognized upon the sale of acquired inventory that was written up to fair value and intangible asset amortization, both of which are not deductible for income tax purposes.

Eurocell Diagnostics

On February 1, 2018, the Company acquired Eurocell Diagnostics SAS, a company based in Rennes, France, for approximately $7.3 million, net of cash acquired. The Company paid $6.0 million on the acquisition date and the remaining $1.3 million was paid on February 1, 2019. The Company has had a long-standing business relationship with Eurocell as a distributor of its product line. Eurocell sells directly to the laboratory markets in the French region as well as servicing the EMEA markets via a network of distributors. The transaction was financed through cash on hand. The primary asset in this acquisition is the customer relationships; however, the acquisition resulted in some goodwill as we expect strategic benefits of revenue growth from increased market penetration. The goodwill is not deductible for income tax purposes. The business became part of the Company’s Diagnostics and Genomics reportable segment in the third quarter of fiscal 2018. Purchase accounting was finalized during fiscal 2018.

Tangible assets acquired, net of liabilities assumed, were recorded at fair value on the date of close based on management's assessment. The purchase price allocated to customer relationships was based on management's forecasted cash inflows and outflows using a multi-period excess earnings method to calculate the fair value of assets purchased. Amortization expense related customer relationships is reflected in selling, general and administrative expenses in the Consolidated Statement of Earnings and Comprehensive Income. The amortization period for customer relationships acquired in fiscal 2018 is 7 years. The deferred income tax liability represents the net amount of the estimated future impact of intangible asset amortization, which is not deductible for income tax purposes.

2017 *Acquisitions*

Advanced Cell Diagnostics (ACD)

On August 1, 2016, the Company acquired ACD for approximately $258.0 million, net of cash acquired, plus contingent consideration of up to $75.0 million as follows:

- $25.0 million if calendar year 2016 revenues equal or exceed $30.0 million.
- an additional $50.0 million if calendar year 2017 revenues equal or exceed $45.0 million.

The Company paid approximately $247.0 million, net of cash acquired and the working capital adjustments, as of the acquisition date. The remaining $11.0 million was paid to current employees who held ACD unvested stock as of the acquisition date. In order to receive payment for unvested shares, the individuals had to remain employees of ACD over an 18-month vesting period which extended from the acquisition date through March 31, 2018. Any amounts that would have been owed to individuals who left the company during the vesting period was pooled together and distributed amongst the other former ACD shareholders at the end of the vesting period. Management determined that $3.6 million of the $11.0 million represented purchase price consideration paid for pre-acquisition services. However, the remaining $7.4 million represented compensation expense as the amount the individual employees received was tied to future service. This liability recorded on the Consolidated Balance Sheets under the caption “Salaries, wages and related accruals” for the fiscal year ended June 30, 2017.

During the third quarter of fiscal 2017, management determined that the calendar year 2016 revenue milestone was met. During the third quarter of fiscal 2018, management determined that the calendar year 2017 revenue milestone was met. Refer to Note 4 for discussion of this item as well as discussion of the changes to the fair value estimate for the calendar year revenue milestones as of June 30, 2018 and 2017.

The goodwill recorded as a result of the ACD acquisition represents the strategic benefits of growing the Company's product portfolio and the expected revenue growth from increased market penetration from future products and customers. The goodwill is not deductible for income tax purposes. The business became part of the Company's Biotechnology reportable segment in the first quarter of 2017.

As previously disclosed, ACD was acquired on August 1, 2016. The unaudited pro forma financial information below summarizes the combined results of operations for Bio-Techne and ACD as though the companies were combined as of the beginning fiscal 2016. The pro forma financial information for all periods presented includes the purchase accounting effects resulting from these acquisitions except for the increase in inventory to fair value and the fair value adjustments to contingent consideration as these are not expected to have a continuing impact on cost of goods sold or selling, general and administrative expense, respectively. The pro forma financial information as presented below is for informational purposes only and is not indicative of the results of operations that would have been achieved if the acquisitions had taken place at the beginning of fiscal 2016.

	Year Ended June 30,	
	2017	*2016*
Net sales	$ 564,220	$ 523,840
Net income	99,380	110,536

Space Import-Export, Srl

On July 1, 2016, the Company acquired Space Import-Export, Srl (Space) of Milan, Italy for approximately $9.0 million. $6.7 million was paid on the acquisition date and the remaining $2.3 million was paid during the first quarter of fiscal year 2018. Space was a long-time distribution partner of the Company in the Italian market. The acquisition resulted in goodwill as we expect strategic benefits of revenue growth from increased market penetration. The goodwill is not deductible for income tax purposes. The business became part of the Company's Biotechnology reportable segment in the first quarter of 2017.

Tangible assets acquired, net of liabilities assumed, were stated at fair value at the date of acquisition based on management's assessment. The purchase price allocated to developed technology, trade names, non-compete agreements and customer relationships was based on management's forecasted cash inflows and outflows and using a relief-from-royalty and a multi-period excess earnings method to calculate the fair value of assets purchased. The developed technology is being amortized with the expense reflected in cost of goods sold in the Consolidated Statements of Earnings and Comprehensive Income. Amortization expense related to trade names, the non-compete agreement and customer relationships is reflected in selling, general and administrative expenses in the Consolidated Statements of Earnings and Comprehensive Income. The deferred income tax liability represents the estimated future impact of adjustments for the cost to be recognized upon the sale of acquired inventory that was written up to fair value and intangible asset amortization, both of which are not deductible for income tax purposes, and the future tax benefit of net operating loss and tax credit carryforwards which will be deductible by the Company in future periods.

The aggregate purchase price of the acquisitions was allocated to the assets acquired and liabilities assumed based on their estimated fair values as of the acquisition date. The following table summarizes the estimated fair values of the assets acquired and liabilities assumed as a result of the fiscal year 2018 and 2017 acquisitions (in thousands):

	Trevigen	Atlanta Biologicals	*Eurocell Diagnostics*	ACD	*Space*
Current assets, net of cash	$ 1,662	$ 15,722	$ 512	$ 15,824	$ 2,128
Equipment and other long-term assets	53	4,901	188	6,569	159
Intangible assets:					
Developed technology	5,100	23,000	-	150,000	-
Trade name	160	2,300	-	21,900	-
Customer relationships	260	3,600	6,272	6,300	6,769
Goodwill	5,991	10,195	2,910	143,967	3,517
Total assets acquired	13,226	59,718	9,882	344,560	12,573
Liabilities	387	90	483	4,179	1,445
Deferred income taxes, net	2,195	8,354	2,070	52,743	2,125
Net assets acquired	$ 10,644	$ 51,274	$ 7,329	$ 287,638	$ 9,003
Cash paid, net of cash acquired	10,644	51,274	$ 5,933	$ 247,038	$ 6,747
Consideration payable	-	-	1,396	3,600	2,256
Contingent consideration payable	-	-	-	37,000	-
Net assets acquired	$ 10,644	$ 51,274	$ 7,329	$ 287,638	$ 9,003

Tangible assets acquired, net of liabilities assumed, were stated at fair value at the date of acquisition based on management's assessment. The purchase price allocated to developed technology, trade names, non-compete agreements and customer relationships was based on management's forecasted cash inflows and outflows and using a relief-from-royalty and multi-period excess earnings method to calculate the fair value of assets purchased. The developed technology is being amortized with the expense reflected in cost of good sold in the Consolidated Statements of Earnings and Comprehensive Income. Amortization expense related to trade names, the non-compete agreement and customer relationships is reflected in selling, general and administrative expenses in the Consolidated Statements of Earnings and Comprehensive Income. The deferred income tax liability represents the estimated future impact of adjustments for the cost to be recognized upon the sale of acquired inventory that was written up to fair value and intangible asset amortization, both of which are not deductible for income tax purposes, and the future tax benefit of net operating loss and tax credit carryforwards which will be deductible by the Company in future periods.

Note* 5. *Fair Value Measurements:

The Company's financial instruments include cash and cash equivalents, available for sale investments, accounts receivable, accounts payable, contingent consideration obligations, derivative instruments, and long-term debt.

Fair value is defined as the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants as of the measurement date. This standard also establishes a hierarchy for inputs used in measuring fair value. This standard maximizes the use of observable inputs and minimizes the use of unobservable inputs by requiring that the most observable inputs be used when available. Observable inputs are inputs market participants would use in valuing the asset or liability based on market data obtained from independent sources. Unobservable inputs are inputs that reflect our assumptions about the factors market participants would use in valuing the asset or liability based upon the best information available in the circumstances.

The categorization of financial assets and liabilities within the valuation hierarchy is based upon the lowest level of input that is significant to the fair value measurement. The hierarchy is broken down into three levels. Level 1 inputs are quoted prices in active markets for identical assets or liabilities. Level 2 inputs include quoted prices for similar assets or liabilities in active markets, quoted prices for identical or similar assets or liabilities in markets that are not active, and inputs (other than quoted prices) that are observable for the asset or liability, either directly or indirectly. Level 3 inputs are unobservable for the asset or liability and their fair values are determined using pricing models, discounted cash flow methodologies or similar techniques and at least one significant model assumption or input is unobservable. Level 3 may also include certain investment securities for which there is limited market activity or a decrease in the observability of market pricing for the investments, such that the determination of fair value requires significant judgment or estimation.

The following tables provide information by level for financial assets and liabilities that are measured at fair value on a recurring basis (in thousands):

	Total carrying value as of June 30, 2019	*Fair Value Measurements Using Inputs Considered as*		
		Level 1	*Level 2*	*Level 3*
Assets				
Equity securities (1)	$ 38,219	$ 38,219	$ -	$ -
Certificates of deposit (2)	26,928	26,928	-	-
Total Assets	$ 65,147	$ 65,147	$ -	$ -
Liabilities				
Contingent consideration	$ 12,600	$ -	$ -	$ 12,600
Derivative instruments - cash flow hedges	12,458	-	12,458	-
Total Liabilities	$ 25,058	$ -	$ 12,458	$ 12,600

	Total carrying value as of June 30, 2018	*Fair Value Measurements Using Inputs Considered as*		
		Level 1	*Level 2*	*Level 3*
Assets				
Equity securities (1)	$ 54,286	$ 54,286	$ -	$ -
Certificates of deposit (2)	5,478	5,478	-	-
Total Assets	$ 59,764	$ 59,764	$ -	$ -
Liabilities				
Contingent consideration	$ -	$ -	$ -	$ -

(1) Included in available-for-sale investments on the balance sheet. The cost basis in the Company's investment in CCXI at June 30, 2019 and June 30, 2018 was $18.8 million.

(2) Included in available-for-sale investments on the balance sheet. The certificate of deposits have contractual maturity dates within one year.

Fair value measurements of available for sale securities

Our available for sale securities are measured at fair value using quoted market prices in active markets for identical assets and are therefore classified as Level 1 assets.

Fair value measurements of derivative instruments

In October 2018, the Company entered into forward starting swaps designated as cash flow hedges on outstanding debt. The forward starting swaps reduce the variability of cash flow payments for the Company by converting the variable interest rate on the Company's long-term debt described in Note 6 to that of a fixed interest rate. Accordingly, as part of the forward starting swaps, the Company will exchange, at specified intervals, the difference between floating and fixed interest amounts based on $380 million of notional principal amount. The change in the fair value of the instrument is reported as a component of other comprehensive income and reclassified into interest expense over the corresponding term of the cash flow hedge. The Company did not reclassify any amounts out of other comprehensive income into interest expense during the fiscal year ended June 30, 2019. The liability related to the derivative instrument was recorded within Other long-term liabilities on the Consolidated Balance Sheet. The instrument was valued using observable market inputs in active markets and therefore classified as a Level 2 liability.

Fair value measurements of contingent consideration

In connection with the ExosomeDx, Quad, and B-Mogen acquisitions the Company is required to make contingent consideration payments of up to $325.0 million, $51.0 million, and $38.0 million respectively. The contingent consideration payments are subject to ExosomeDx achieving certain EBITA thresholds, Quad meeting certain product development milestones and revenue thresholds, and B-Mogen meeting certain product development milestones and revenue thresholds. The preliminary fair value of the liabilities for the contingent payments recognized upon the acquisition as part of the purchase accounting opening balance sheet totaled $14.6 million ($3.8 million for ExosomeDx, $5.3 million for Quad, and $5.5 million for B-Mogen) as discussed in Note 4. The preliminary fair value of the development milestone payments was estimated by discounting the probability-weighted contingent payments expected to be made to present value. Assumptions used in these calculations were probability of success, duration of the earn-out, and discount rate. The preliminary fair value for the EBITA and revenue milestone payments was determined using a Monte Carlo simulation-based model discounted to present value. Assumptions used in these calculations are units sold, expected revenue, expected expenses, discount rate and various probability factors. The ultimate settlement of contingent consideration could deviate from current estimates based on the actual results of these financial measures. This liability is considered to be a Level 3 financial liability that is re-measured each reporting period. The change in fair value of contingent consideration for these acquisitions is included in general and administrative expense.

In fiscal 2018, the Company made $88.5 million in cash payments towards the ACD, CyVek and Zephyrus contingent consideration liabilities after it determined certain sales and revenue thresholds were met. Of the $88.5 million in total payments, $61.9 million is classified as financing on the statement of cash flows. The remaining $26.6 million is recorded as operating on the statement of cash flows as it represents the consideration liability that exceeds the amount of the contingent consideration liability recognized at the acquisition date.

The following table presents a reconciliation of the liability measured at fair value on a recurring basis using significant unobservable inputs (Level 3) (in thousands):

	June 30,	
	2019	*2018*
Fair value at the beginning of period	$ -	$ 68,400
Purchase price contingent consideration (Note 4)	14,600	-
Payments	-	(88,500)
Change in fair value of contingent consideration	(2,000)	20,100
Contingent consideration payable	$ 12,600	$ -

Fair value measurements of other financial instruments– The following methods and assumptions were used to estimate the fair value of each class of financial instrument for which it is practicable to estimate fair value.

Cash and cash equivalents, certificates of deposit, accounts receivable, and accounts payable – The carrying amounts reported in the consolidated balance sheets approximate fair value because of the short-term nature of these items.

Long-term debt – The carrying amounts reported in the consolidated balance sheets for the amount drawn on our line-of-credit facility approximates fair value because our interest rate is variable and reflects current market rates.

Note* 6. *Debt and Other Financing Arrangements:

On August 1, 2018, the Company entered into a new uncollateralized revolving line-of-credit and term loan governed by a Credit Agreement (the Credit Agreement). The Credit Agreement provides for a revolving credit facility of $600.0 million, which can be increased by an additional $200.0 million subject to certain conditions, and a term loan of $250.0 million. Borrowings under the Credit Agreement may be used for working capital and expenditures of the Company and its subsidiaries, including financing permitted acquisitions. Borrowings under the Credit Agreement bear interest at a variable rate. The current outstanding debt is based on the Eurodollar Loans term for which the interest rate is calculated as the sum of LIBOR plus an applicable margin. The applicable margin is determined for the total leverage ratio of the Company and updated on a quarterly basis. The annualized fee for any unused portion of the credit facility is currently 20 basis points. The Company has recorded $12.5 million of our outstanding borrowings under the Credit Agreement as a current liability in our Consolidated Balance sheet, which represents our required quarterly debt payments to be made in fiscal year 2020.

The Credit Agreement matures on August 1, 2023 and contains customary restrictive and financial covenants and customary events of default. At the closing on August 1, 2018 the company borrowed $250.0 million under the term loan and $330.0 million under the revolving credit facility. As of June 30, 2019, the outstanding balance under the Credit Agreement was $505.2 million.

Note* 7. *Commitments and Contingencies:

The Company leases office and warehouse space, vehicles and various office equipment under operating leases. At June 30, 2019, aggregate net minimum rental commitments under non-cancelable leases having an initial or remaining term of more than one year are payable as follows (in thousands):

2020	$	13,707
2021		13,469
2022		13,154
2023		12,716
2024		11,392
Thereafter		51,895
Total	$	116,333

Total rent expense was approximately $12.9 million, $10.8 million, and $9.8 million for the years ended June 30, 2019, 2018, and 2017, respectively.

The Company is routinely subject to claims and involved in legal actions which are incidental to the business of the Company. Although it is difficult to predict the ultimate outcome of these matters, management believes that any ultimate liability will not materially affect the consolidated financial position or results of operations of the Company.

Note* 8. *Supplemental Equity and Accumulated Other Comprehensive Income (loss):

Supplemental Equity

The Company has declared cash dividends per share of $1.28 in each of the full fiscal years ended June 30, 2019, June 30, 2018, and June 30, 2017. During the year ended June 30, 2019, the Company repurchased 95,000 shares at an average share price of $162.15. During fiscal 2019, the Company made the accounting policy election to record the portion of share repurchases in excess of the par value entirely in retained earnings.

Accumulated Other Comprehensive Income (loss)

Changes in accumulated other comprehensive income (loss), net of tax, at June 30 consists of (in thousands):

	Unrealized Gains (Losses) on Available-for-Sale Investments	*Foreign Currency Translation Adjustments*	*Unrealized Gains (Losses) on Derivatives Instruments*	*Total*
Balance June 30, 2016	$ (5,542)	(64,863)	-	$ (70,405)
Other comprehensive income (loss) before reclassifications	24,531	(3,061)	-	21,470
Balance June 30, 2017	$ 18,989	(67,924)	-	$ (48,935)
Other comprehensive income (loss) before reclassifications	18,108	(1,572)	-	16,536
Amounts reclassified from accumulated other comprehensive loss to income	(12,415)	-	-	(12,415)
Balance June 30, 2018	$ 24,682	(69,496)	-	$ (44,814)
Cumulative effect adjustment for adoption for ASU 2018-02[1]	2,371	-	-	2,371
Cumulative effect adjustment for adoption for ASU 2016-01[1]	(27,053)	-	-	(27,053)
Other comprehensive income (loss) before reclassifications [2]	-	(4,487)	(9,537)	(14,024)
Balance June 30, 2019	$ -	(73,983)	(9,537)	$ (83,521)

[1]See Note 1 for further information related to the adoption of ASU 2016-01 and 2018-02.

[2] The gain (loss) on the forward starting interest rate swap will be reclassified into earnings beginning October 31, 2019. Approximately ($1,748) of the ($9,537) will be reclassified into earnings in the 12 months subsequent to June 30, 2019.

Note* 9. *Earnings Per Share:

The following table reflects the calculation of basic and diluted earnings per share (in thousands, except per share amounts):

	Year Ended June 30, 2019	2018	2017
Earnings per share – basic:			
Net income	$ 96,072	$ 126,150	$ 76,086
Income allocated to participating securities	(105)	(108)	(65)
Income available to common shareholders	$ 95,967	$ 126,042	$ 76,021
Weighted-average shares outstanding – basic	37,781	37,476	37,313
Earnings per share – basic	$ 2.54	$ 3.36	$ 2.04
Earnings per share – diluted:			
Net income	$ 96,072	$ 126,150	$ 76,086
Income allocated to participating securities	(105)	(108)	(65)
Income available to common shareholders	$ 95,967	$ 126,042	$ 76,021
Weighted-average shares outstanding – basic	37,781	37,476	37,313
Dilutive effect of stock options and restricted stock units	1,111	579	187
Weighted-average common shares outstanding – diluted	38,892	38,055	37,500
Earnings per share – diluted	$ 2.47	$ 3.31	$ 2.03

Basic net income per common share is calculated based on the weighted average number of common shares outstanding during the period. Diluted net income per common share is computed by dividing net income by the weighted average number of common and potentially dilutive common shares outstanding during the period. Potentially dilutive common shares of our stock result from dilutive common stock options and restricted stock units. We use the treasury stock method to calculate the weighted-average shares used in the diluted earnings per share computation. Under the treasury stock method, the proceeds from exercise of an option, the amount of compensation cost, if any, for future service that we have not yet recognized, and the amount of estimated tax benefits that would be recorded in paid-in capital, if any, when the option is exercised are assumed to be used to repurchase shares in the current period.

The dilutive effect of stock options in the above table excludes all options for which the aggregate exercise proceeds exceeded the average market price for the period. The number of potentially dilutive option shares excluded from the calculation was 1.3 million, 0.9 million, and 2.0 million for the fiscal years ended June 30, 2019, 2018 and 2017, respectively.

Note* 10. *Share-based Compensation and Other Benefit Plans:

The cost of employee services received in exchange for the award of equity instruments is based on the fair value of the award at the date of grant. Compensation cost is recognized using a straight-line method over the vesting period and is net of estimated forfeitures. Stock option exercises and stock awards are satisfied through the issuance of new shares.

Equity incentive plan: The Company's Second Amended and Restated 2010 Equity Incentive Plan (the Second A&R 2010 Plan) provides for the granting of incentive and nonqualified stock options, restricted stock, restricted stock units, performance shares, performance units and stock appreciation rights. There are 7.5 million shares of common stock authorized for grant under the Second A&R 2010 Plan. At June 30, 2019, there were 2.6 million shares of common stock available for grant under the Second A&R 2010 Plan. The maximum term of incentive options granted under the Second A&R 2010 Plan is ten years. The Second A&R 2010 Plan amended and restated the Company's Amended and Restate 2010 Equity Incentive Plan (the A&R 2010 Plan). The A&R 2010 Plan replaced the Company's 1998 Nonqualified Stock Option Plan (the 1998 Plan). The Second A&R 2010 Plan and the 1998 Plan (collectively, the Plans) are administered by the Board of Directors and its Executive Compensation Committee, which determine the persons who are to receive awards under the Plans, the number of shares subject to each award and the term and exercise price of each award. The number of shares of common stock subject to outstanding awards as of June 30, 2019 under the Second A&R 2010 Plan and the 1998 Plan were 3.6 million and 20,000, respectively. On April 26, 2018 the Compensation Committee of the Board of Directors approved a modification to the Equity Incentive Plan. The modification implements a new retirement policy that permits retirees to continue vesting in certain time-based stock options granted during employment, resulting in accelerated stock compensation expense for those employees meeting the definition of retirement eligible. This modification resulted in an additional $8.3 million of expense during fiscal year 2018 and affected all employees who participate in the plan.

The fair values of options granted under the Plans were estimated on the date of grant using the Black-Scholes option-pricing model with the following assumptions used:

	Year Ended June 30,		
	2019	*2018*	*2017*
Dividend yield	0.74%	1.1%	1.2%
Expected volatility	20% - 23%	20% - 21%	21% - 24%
Risk-free interest rates	2.5% - 3.0%	1.7% - 2.8%	1.0% - 1.9%
Expected lives (years)	4.1	4.7	4.7

The dividend yield is based on the Company's historical annual cash dividend divided by the market value of the Company's common stock. The expected annualized volatility is based on the Company's historical stock price over a period equivalent to the expected life of the option granted. The risk-free interest rate is based on U.S. Treasury constant maturity interest rates with a term consistent with the expected life of the options granted.

Stock option activity under the Plans for the three years ended June 30, 2019, consists of the following (shares in thousands):

	Number of Shares (in thousands)	*Weighted Average Exercise Price*	*Aggregate Intrinsic Value (millions)*	*Weighted Average Contractual Life (years)*
Outstanding at June 30, 2016	1,819	$ 91.91		
Granted	1,135	107.42		
Forfeited	(70)	99.11		
Exercised	(63)	71.81		
Outstanding at June 30, 2017	2,821	$ 98.42		
Granted	1,087	120.67		
Forfeited	(252)	86.62		
Exercised	(204)	111.51		
Outstanding at June 30, 2018	3,452	$ 105.17		
Granted	917	173.89		
Forfeited	(330)	129.93		
Exercised	(383)	95.29		
Outstanding at June 30, 2019	3,656	$ 121.16	$ 319.3	4.45
Exercisable at June 30, 2017:	843	82.93		
Exercisable at June 30, 2018:	1,151	90.75		
Exercisable at June 30, 2019:	1,467	98.70	$ 161	3.33

The weighted average fair value of options granted during fiscal 2019, 2018 and 2017 was $34.66, $22.07 and $18.21 respectively. The total intrinsic value of options exercised during fiscal 2019, 2018 and 2017 were $159.0 million, $10.6 million, and $2.3 million respectively. The total fair value of options vested during fiscal 2019, 2018 and 2017 were $31.7 million, $8.8 million, and $5.0 million respectively.

Restricted common stock activity under the Plans for the three years ended June 30, 2019, consists of the following (units in thousands):

	Number of Shares (in thousands)		*Weighted Average Grant Date Fair Value*	*Weighted Average Remaining Contractual Term (years)*
Unvested at June 30, 2016	23	$	98.03	
Granted	24		104.94	
Vested	(15)		92.62	
Forfeited	-		-	
Unvested at June 30, 2017	32	$	105.80	
Granted	20		125.05	
Vested	(17)		104.66	
Forfeited	-		-	
Unvested at June 30, 2018	35	$	117.39	
Granted	15		177.93	
Vested	(20)		116.76	
Forfeited	-		-	
Unvested at June 30, 2019	30	$	117.39	5.88

The total fair value of restricted shares that vested was $2.3 million for fiscal 2019, $1.7 million for fiscal 2018, and $1.4 million for fiscal 2017.

Restricted stock unit activity under the Plans for the three years ended June 30, 2019, consists of the following (units in thousands):

	Number of Units (in thousands)		*Weighted Average Grant Date Fair Value*	*Weighted Average Remaining Contractual Term (years)*
Outstanding at June 30, 2016	59	$	100.40	
Granted	65		109.36	
Vested	(9)		92.94	
Forfeited	(4)		98.04	
Outstanding at June 30, 2017	111	$	106.39	
Granted	71		129.99	
Vested	(16)		95.46	
Forfeited	(18)		115.01	
Outstanding at June 30, 2018	148	$	117.95	
Granted	56		170.96	
Vested	(28)		110.86	
Forfeited	(36)		143.72	
Outstanding at June 30, 2019	139	$	134.17	5.17

The total fair value of restricted stock units that vested was $3.1 million for fiscal 2019, $1.6 million for fiscal 2018, and $0.9 million for fiscal 2017. The restricted stock units vest over a three-year period.

Stock-based compensation cost of $32.3 million, $28.2 million, and $14.6 million was included in selling, general and administrative expense in fiscal 2019, 2018 and 2017, respectively. The income tax benefit associated with stock-based compensation costs was $0.4 million and $0.5 million in fiscal 2018, and 2017, respectively. As of June 30, 2019, there was $26.6 million of unrecognized compensation cost related to non-vested stock options, non-vested restricted stock units and non-vested restricted stock which will be expensed in fiscal 2020 through 2022 using a 3% forfeiture rate. The weighted average period over which the compensation cost is expected to be recognized is 2.0 years.

Employee stock purchase plan: In fiscal year 2015, the Company established the Bio-Techne Corporation 2014 Employee Stock Purchase Plan (ESPP), which was approved by the Company's shareholders on October 30, 2014, and which is designed to comply with IRS provisions governing employee stock purchase plans. 200,000 shares were allocated to the ESPP. The Company recorded expense of $0.5 million, $0.3 million and $0.2 million expense for the ESPP in fiscal 2019, 2018 and 2017, respectively.

Profit sharing and savings plans: The Company has profit sharing and savings plans for its U.S. employees, which conform to IRS provisions for 401(k) plans. The Company makes matching contributions to the Plan. The Company has recorded an expense for contributions to the plans of $2.8 million, $2.5 million, and $2.2 million for the years ended June 30, 2019, 2018, and 2017, respectively. The Company operates defined contribution pension plans for its U.K. employees. The Company has recorded an expense for contributions to the plans of $1.4 million, $1.4, and $0.8 million for the years ended June 30, 2019, 2018 and 2017, respectively.

Performance incentive programs: In fiscal 2019, under certain employment agreements and a Management Incentive Plan available to executive officers and certain management personnel, the Company recorded cash bonuses of $9.3 million, granted options for 618,898 shares of common stock, issued 11,279 restricted common shares and 25,903 restricted stock units. In fiscal 2018 and fiscal 2017, the Company recorded cash bonuses of $7.2 million and $4.7 million, granted options for 553,750 and 896,778 shares of common stock, and issued 14,194 and 16,653 restricted common stock shares and 35,174 and 39,931 restricted stock, respectively.

Note* 11. *Income Taxes:

Income before income taxes was comprised of the following (in thousands):

	Year Ended June 30, 2019	2018	2017
Domestic	$ 64,081	$ 81,557	$ 81,721
Foreign	47,934	44,395	30,240
Income before income taxes	$ 112,015	$ 125,952	$ 111,961

The provision for income taxes consisted of the following (in thousands):

	Year Ended June 30, 2019	2018	2017
Taxes on income consist of:			
Currently tax provision:			
Federal	$ 16,090	$ 28,416	$ 28,462
State	544	5,315	4,051
Foreign	13,329	11,983	8,212
Total current tax provision	29,963	45,714	40,725
Deferred tax provision:			
Federal	(6,903)	(40,378)	(901)
State	(3,977)	(1,381)	(968)
Foreign	(3,142)	(4,154)	(2,981)
Total deferred tax provision	(14,021)	(45,912)	(4,850)
Total income tax provision	$ 15,942	$ (198)	$ 35,875

The Company’s effective income tax rate for fiscal 2019 was 14.2% vs (0.2%) in the prior year. The change in the effective tax rate for fiscal 2019 and 2018 was driven by changes in net discrete tax benefits of $12.7 million and $34.4 million for fiscal year 2019 and 2018, respectively.

The Company's discrete tax benefits in fiscal 2019 primarily related to share-based compensation excess tax benefits of $7.2 million, $3.2 million related to current year acquisitions, and $2.0 million for tax refunds relating to certain state apportionments. The current year was benefited from acquisition payments made to employees and third parties, which were deductible for tax purposes.

In fiscal 2018, the Company recognized net discrete tax benefits of $34.4 million. The primary driver in fiscal 2018 discrete tax benefits was a discrete net tax benefit of $33.0 million related to the Tax Act (as described further below). This net tax benefit consisted of $36.5 million due to the re-measurement of the Company’s deferred tax accounts to reflect the U.S. federal corporate tax rate reduction impact to our net deferred tax balances offset by expense for the federal transition tax of $3.3 million. Also impacting the Company’s fiscal 2018 effective tax rate was a $2.2 million tax benefit related to stock option exercises offset by a net discrete tax expense of $4.2 million related to the revaluation of contingent consideration, which is not a tax deductible expense.

On December 22, 2017, the Tax Cuts and Jobs Act (the “Tax Act”) was enacted, which reduced the U.S. federal corporate tax rate from 35% to 21%, required companies to pay a one-time transition tax on earnings of certain foreign subsidiaries that were previously tax deferred and created new taxes on certain foreign sourced earnings. The Tax Act added many new provisions including changes the deduction for executive compensation, a tax on global intangible low taxed income (“GILTI”), the base erosion anti abuse tax (“BEAT”) and a deduction for foreign derived intangible income (“FDII”). The SEC staff issued Staff Accounting Bulletin (“SAB 118”) later codified as ASU 2018-05 *Amendments to SEC Paragraphs Pursuant to SEC Staff Accounting Bulletin (SAB)*No. 118, which provides a measurement period of up to one year from the Tax Act’s enactment date to complete the accounting for the effects of the Tax Act.

The end of the measurement period allowed under ASU 2018-05 was December 31, 2018. However, the Company anticipates additional interpretations and clarifications to be issued by the U.S. Treasury Department, which may affect future period tax calculations. The Company made the accounting policy election to treat taxes due on U.S. inclusions in taxable income related to GILTI as a current period expense when incurred.

The following is a reconciliation of the federal tax calculated at the statutory rate of to the actual income taxes provided (in thousands):

	Year Ended June 30, 2019	2018	2017
Income tax expense at federal statutory rate	21.0%	28.1%	35.0%
State income taxes, net of federal benefit	0.8%	2.5%	1.9%
Qualified production activity deduction	-%	(2.4)%	(3.4)%
Research and development tax credit	(1.6)%	(1.4)%	(1.4)%
Contingent consideration adjustment	(0.4)%	3.3%	4.1%
Foreign tax rate differences	0.2%	(3.5)%	(4.6)%
Option exercises	(5.8)%	(1.8)%	-%
Domestic tax legislation changes	1.7%	(26.2)%	-%
State apportionment changes	(2.3)%	-	-
Other, net	0.6%	1.2%	0.4%
Effective tax rate	14.2%	(0.2)%	32.0%

Deferred taxes on the Consolidated Balance Sheets consisted of the following temporary differences (in thousands):

	June 30 2019	2018
Inventory	$ 7,743	$ 5,873
Net operating loss carryovers	33,294	15,938
Tax credit carryovers	9,640	7,029
Excess tax basis in equity investments	3,433	2,813
Deferred compensation	10,333	7,806
Derivative - cash flow hedge	2,921	-
Other	5,207	3,864
Valuation allowance	(6,974)	(2,978)
Deferred tax assets	65,597	40,345
Net unrealized gain on available-for-sale investments	(4,542)	(8,384)
Intangible asset amortization	(141,998)	(111,247)
Depreciation	(8,371)	(6,349)
Other	(440)	(658)
Deferred tax liabilities	(155,351)	(126,638)
Net deferred tax liabilities	$ (89,754)	$ (86,293)

A deferred tax valuation allowance is required when it is more likely than not that all or a portion of deferred tax assets will not be realized. The valuation allowance as of June 30, 2019 was $7.0 million, an increase of $4.0 million from the prior year. The change was driven by an increase in the valuation allowance for the Company's net operating loss and credit carryforwards for fiscal 2019 acquisitions.

As of June 30, 2019, the $7.0 million valuation allowance relates to certain foreign and state tax net operating loss and state credit carryforwards that existed at the date the Company acquired Quad, Exosome, ACD, Novus, ProteinSimple and CyVek as well as immaterial amounts generated after the acquisitions. The Company believes it is more likely than not that these tax carryovers will not be realized.

As of June 30, 2019, the Company has federal operating loss carryforwards of approximately $98.2 million and state operating loss carryforwards of $137.4 million from its acquisitions of Quad, Exosome, ACD, ProteinSimple and CyVek, which are not limited under IRC Section 382. As of June 30, 2019, the Company has foreign net operating loss carryforwards of $13.6 million. The net operating loss carryforwards expire between fiscal 2020 and 2035. The Company has a deferred tax asset of $28.2 million, net of the valuation allowance discussed above, related to the net operating loss carryovers. As of June 30, 2019, the Company has federal and state tax credit carryforwards of $5.2 million and $4.4 million, respectively. The federal tax credit carryforwards expire between 2028 and 2038. The majority of the state credit carryforwards have no expiry date. The Company has a deferred tax asset of $7.7 million, net of the valuation allowance discussed above, related to the tax credit carryovers.

The Company has not recognized a deferred tax liability for unremitted foreign earnings of approximately $160 million from its foreign operations because its subsidiaries have invested or will invest the undistributed earnings indefinitely. The transition tax included as part of the Tax Act resulted in the previously untaxed foreign earnings being included in the federal and state fiscal 2018 taxable income. The one-time transition tax was based on certain foreign earnings for which earnings have been previously indefinitely reinvested as well as the amount of earnings held in cash and other specified assets. No additional income taxes have been provided for cumulative unremitted foreign earnings as at this time our intention with respect to unremitted foreign earnings is to continue to indefinitely reinvest outside the U.S. those earnings needed for working capital or additional foreign investment. If there are policy changes, we would record applicable taxes at that time.

We continue to analyze our global working capital requirements and the potential tax liabilities that would be incurred if the non-U.S. subsidiaries distribute cash to the U.S. parent, which include local country withholding tax and potential U.S. state taxation. In addition, we anticipate that further guidance from the IRS and US Treasury related to the Tax Act could impact the amount of any related taxes. Therefore, it is not practical to estimate the amount of the deferred income tax liabilities related to investments in these foreign subsidiaries.

The following is a reconciliation of the beginning and ending balance of unrecognized tax benefits (in thousands):

	Year Ended June 30,		
	2019	*2018*	*2017*
Beginning balance	$ 1,947	$ 1,747	$ 1,480
Additions due to acquisitions	900		628
Additions for tax positions of current year	2,185	35	13
Closure of tax years			(374)
Tax reform		165	
Ending balances	$ 5,032	$ 1,947	$ 1,747

The Company does not believe it is reasonably possible that the total amounts of unrecognized tax benefits will significantly increase in the next twelve months. The Company files income tax returns in the U.S federal and certain state tax jurisdictions, and several jurisdictions outside the U.S. The Company's federal returns are subject to tax assessment for 2016 and subsequent years. State and foreign income tax returns are generally subject to examination for a period of three to five years after filing of the respective return. The state impact of any federal changes remains subject to examination by various states for a period of up to one year after formal notification to the states.

Note* 12. *Segment Information:

The Company has two reportable segments based on the nature of its products; they are Protein Sciences and Diagnostics and Genomics.

The Company's Protein Sciences segment is comprised of the Reagent Solutions and the Analytical Solutions operating segment. These businesses manufacture consumables used for conducting laboratory experiments by both industry and academic scientists within the biotechnology and biomedical life science fields. No customer in the Protein Sciences segment accounted for more than 10% of the segment's net sales for the years ended June 30, 2019, 2018, and 2017.

The Company's Diagnostics and Genomics is comprised of the Diagnostics, Genomics, and Exosome operating segments. The Diagnostics division consists of the Diagnostics operating segment and develops and manufactures a range of controls and calibrators used with diagnostic equipment and as proficiency testing tools, as well as other reagents incorporated into diagnostic kits, and the Genomics division consists of the Genomics and Exosome operating segments and sells a portfolio of clinical molecular diagnostic oncology assays, as well as tissue-based in-situ hybridization assays for research in clinical use. No customer in the Diagnostics and Genomics segment accounted for more than 10% of the segment's net sales for the fiscal years ended June 30, 2019, 2018, and 2017.

There are no concentrations of business transacted with a particular customer or supplier or concentrations of revenue from a particular product or geographic area that would severely impact the Company in the near term.

Following is financial information relating to the operating segments (in thousands):

	Year Ended June 30,		
	2019	*2018*	*2017*
Net sales:			
Protein Sciences	$ 543,159	$ 482,378	$ 419,365
Diagnostics and Genomics	171,674	161,151	143,742
Intersegment	(827)	(536)	(104)
Consolidated net sales	$ 714,006	$ 642,993	$ 563,003
Operating Income:			
Protein Sciences	$ 240,919	$ 209,880	$ 184,095
Diagnostics and Genomics	10,079	35,496	29,291
Segment operating income	250,998	245,376	213,386
Costs recognized upon sale of acquired inventory	(3,739)	(2,455)	(3,037)
Amortization of acquired intangible assets	(58,550)	(46,983)	(44,393)
Acquisition related expenses	(2,282)	(24,429)	(25,789)
Restructuring costs	-	(376)	-
Stock-based compensation	(33,057)	(28,240)	(14,631)
Corporate general, selling and administrative expenses	(6,651)	(6,715)	(4,952)
Consolidated operating income	$ 146,719	$ 136,178	$ 120,584

The Company has some integrated facilities that serve multiple segments. As such, asset and capital expenditure information by reportable segment has not been provided and is not available, since the Company does not produce or utilize such information internally. In addition, although depreciation and amortization expense is a component of each reportable segment's operating results, it is not discretely identifiable.

The Company has disclosed sales by geographic area based on the location of the customer or distributor in Note 2. The Company has disclosed disaggregated product and service revenue by consumables, instruments, and services in Note 2. The Company considers total instrument and total service revenue to represent similar groups of products in the fiscal years presented. The Company considered our consumables sold in the Protein Sciences and Diagnostics and Genomics segments to represent different groups of products and therefore have separately disclosed the related consumables revenue (in thousands) :

	Year Ended June 30,		
	2019	*2018*	*2017*
Consumables revenue - Protein Sciences	$ 430,655	$ 384,350	$ 341,611
Consumables revenue - Diagnostics and Genomics	158,324	150,388	134,930
Total consumable revenue	$ 588,979	$ 534,738	$ 476,541

The following is financial information relating to geographic areas (in thousands):

	Year ended June 30,	
Long-lived assets:	*2019*	*2018*
United States and Canada	$ 138,016	$ 129,360
Europe	14,439	14,597
Asia	1,584	1,391
Total long-lived assets	$ 154,039	$ 145,348
Intangible assets:		
United States and Canada	$ 556,951	$ 417,430
Europe	16,637	21,386
Asia	5,841	7,516
Total intangible assets	$ 579,429	$ 446,332

Long-lived assets are comprised of land, buildings and improvements and equipment, net of accumulated depreciation and other assets.

Note* 13. *Quarterly Financial Data (unaudited):

(in thousands, except per share data)

2019	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Year
Net sales	$ 162,970	$ 174,510	$ 184,861	$ 191,664	$ 714,006
Cost of sales	$ 55,367	$ 61,492	$ 60,251	$ 63,405	$ 240,515
Net earnings	$ 17,403	$ 17,556	$ 44,654	$ 16,459	$ 96,072
Earnings per common share:					
Basic	$ 0.46	$ 0.46	$ 1.18	$ 0.43	$ 2.54
Diluted	$ 0.45	$ 0.45	$ 1.15	$ 0.42	$ 2.47
Weighted average common shares outstanding:					
Basic	37,697	37,766	37,772	37,881	37,781
Diluted	38,813	38,748	38,861	39,135	38,892

(in thousands, except per share data)

2018	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Year
Net sales	$ 144,613	$ 154,153	$ 163,973	$ 180,254	$ 642,993
Cost of sales	$ 46,745	$ 52,319	$ 53,712	$ 58,074	$ 210,850
Net earnings(1)	$ 15,863	$ 48,847	$ 19,738	$ 41,701	$ 126,150
Earnings per common share:					
Basic	$ 0.42	$ 1.30	$ 0.53	$ 1.09	$ 3.36
Diluted	$ 0.42	$ 1.29	$ 0.52	$ 1.07	$ 3.31
Weighted average common shares outstanding:					
Basic	37,376	37,449	37,503	37,585	37,476
Diluted	37,705	37,926	38,142	38,347	38,055

(1) Net earnings in total and per share do not sum due to rounding

Note* 14. *Subsequent Events:

None

Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors
Bio-Techne Corporation:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Bio-Techne Corporation and subsidiaries (the Company) as of June 30, 2019 and 2018, the related consolidated statements of earnings and comprehensive income, shareholders' equity, and cash flows for each of the years in the three-year period ended June 30, 2019, and the related notes (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of June 30, 2019 and 2018, and the results of its operations and its cash flows for each of the years in the three-year period ended June 30, 2019, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of June 30, 2019, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated August 28, 2019 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

Change in Accounting Principle

As discussed in Note 1 to the consolidated financial statements, the Company has changed its method of accounting for revenue recognition as of July 1, 2018 due to the adoption of FASB Accounting Standards Codification (Topic 606), *Revenue from Contracts with Customers.*

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Initial fair value measurement of the developed technology and trade name intangible assets acquired in certain acquisitions

As discussed in Note 4 to the consolidated financial statements, the acquisition of QT Holdings Corporation, Exosome Diagnostics, Inc., and B-MoGen Biotechnologies Inc. resulted in the recording of developed technology and trade name intangible assets of $131.3 million and $58.0 million, respectively. The determination of the acquisition date fair value of the developed technology and trade name assets required the Company to make significant estimates and assumptions regarding future revenue growth rates, and discount rates.

We identified the initial fair value measurement of the developed technology and trade name assets acquired in these transactions as a critical audit matter. Testing the assumptions regarding future revenue growth rates, and discount rates, which were used to calculate the fair values, involved a high degree of subjectivity. In addition, the fair values of these intangible assets were challenging to audit due to the sensitivity of the fair value determination to changes in these assumptions.

We performed audit procedures, including our primary procedures described below, to address this critical audit matter. We tested certain internal controls over the Company's acquisition-date valuation process, including controls over the development of the future revenue growth rates, and discount rates. We performed sensitivity analyses over the future revenue growth rates to assess the impact of changes in those assumptions on the Company's determination of the fair value of the intangible assets. We challenged the future revenue growth rates used by the Company to determine forecasted revenues, by comparing them to industry benchmarks and data, as well as evaluated the relevance and reliability of third-party market data points used to develop the future revenue growth rates. We evaluated the Company's assumptions for the timing of product release used to support the future revenue growth rate by comparing them to industry benchmarks, based on the type of product and stage of the testing trials. Finally, we involved a valuation professional with specialized skills and knowledge, who assisted in evaluating the discount rate used by the Company, by comparing it against a discount rate range that was independently developed using publicly available market data for comparable entities. They also assisted in developing an estimate of the intangible assets acquired using the Company's cash flow forecast and an independently developed discount rate. We compared the results of our estimate of fair value to the Company's fair value estimate.

Fair value measurement of the contingent consideration liabilities related to certain acquisitions

As discussed in Note 4 to the consolidated financial statements, the initial fair value of the contingent consideration liabilities for the QT Holdings Corporation, Exosome Diagnostics, Inc., and B-MoGen Biotechnologies Inc. acquisitions was $5.3 million, $3.8 million, and $5.5 million, respectively. The contingent consideration liabilities are re-measured each reporting period, with a maximum payout of $51.0 million, $325.0 million and $38.0 million for QT Holdings Corporation, Exosome Diagnostics, Inc., and B-MoGen Biotechnologies Inc., respectively. The determination of the fair value of the contingent consideration liabilities requires the Company to make significant estimates and assumptions. These estimates and assumptions include the future revenue growth rates, including the timing of product release, and discount rates. The measurement of the fair value of contingent consideration for Exosome Diagnostics, Inc. also includes an estimate of future earnings before income taxes and amortization (EBITA).

We identified the initial measurement of the contingent consideration liabilities for these transactions as a critical audit matter because testing certain of the assumptions involved a high degree of subjectivity. In addition, auditing the Company's simulation and milestone based models, which were used to determine the fair value of the contingent consideration liabilities, involved complex and challenging auditor judgment as the inputs to such models do not have directly observable market inputs.

We performed audit procedures, including our primary procedures described below, to address this critical audit matter. We tested certain internal controls over the Company's acquisition-date valuation process for contingent consideration liabilities, including controls over the future revenue growth rates, including the timing of product release, discount rates, and EBITA assumptions. We performed sensitivity analyses over the timing of product release, revenue growth rates and EBITA assumptions. These sensitivity analyses assessed the impact of changes in these assumptions on the Company's determination of the fair value of the contingent consideration liabilities. We challenged the revenue growth rate and EBITA assumptions used in the Company's simulation and milestone-based models by comparing the inputs to industry benchmarks and other relevant and reliable third-party market data. We evaluated the product release timing assumptions by comparing them to industry benchmarks, based on the type of product and stage of the testing trials. Finally, we involved a valuation professional with specialized skills and knowledge, who assisted in evaluating the discount rate by comparing it against ranges that were independently developed using publicly available market data for comparable entities. Additionally, the valuation professional assisted in the evaluation of the Company's selection of an appropriate valuation method for the contingent consideration. They also assisted in developing an estimate of the initial fair values of the contingent consideration liabilities using simulation and milestone-based models and an independently developed discount rate. We used such inputs to calculate in independent estimate of fair value using the simulation and milestone based models developed by the Company. We compared the results of our estimate of fair value for the contingent consideration liabilities to the Company's fair value estimate.

/s/ KPMG LLP

We have served as the Company's auditor since 2002.

Minneapolis, Minnesota
August 28, 2019

Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors
Bio-Techne Corporation:

Opinion on Internal Control Over Financial Reporting

We have audited Bio-Techne Corporation and subsidiaries' (the Company) internal control over financial reporting as of June 30, 2019, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of June 30, 2019, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of June 30, 2019 and 2018, the related consolidated statements of earnings and comprehensive income, shareholders' equity, and cash flows for each of the years in the three-year period ended June 30, 2019, and the related notes (collectively, the consolidated financial statements), and our report dated August 28, 2019 expressed an unqualified opinion on those consolidated financial statements.

The Company acquired QT Holdings Corporation, Exosome Diagnostics, Inc., and B-MoGen Biotechnologies Inc. during fiscal 2019 and management excluded from its assessment of the effectiveness of the Company's internal control over financial reporting as of June 30, 2019, QT Holdings Corporation, Exosome Diagnostics, Inc., and B-MoGen Biotechnologies Inc.'s internal control over financial reporting associated with 17.2% of total assets and 0.5% of total revenues included in the consolidated financial statements of the Company as of and for the year ended June 30, 2019. Our audit of internal control over financial reporting of the Company also excluded an evaluation of the internal control over financial reporting of QT Holdings Corporation, Exosome Diagnostics, Inc., and B-MoGen Biotechnologies Inc.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Annual Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

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

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

/s/ KPMG LLP

Minneapolis, Minnesota
August 28, 2019

PART IV

ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES

A. (1) List of Financial Statements.

The following Consolidated Financial Statements are filed as part of this Annual Report on Form 10-K:

Consolidated Statements of Earnings and Comprehensive Income for the Years Ended June 30, 2019, 2018, and 2017

Consolidated Balance Sheets as of June 30, 2019 and 2018

Consolidated Statements of Shareholders' Equity for the Years Ended June 30, 2019, 2018, and 2017

Consolidated Statements of Cash Flows for the Years Ended June 30, 2019, 2018, and 2017

Notes to Consolidated Financial Statements for the Years Ended June 30, 2019, 2018, and 2017

Reports of Independent Registered Public Accounting Firm

A. (2) Financial Statement Schedules.

All financial statement schedules are omitted because they are not applicable, not material or the required information is shown in the Consolidated Financial Statements or Notes thereto.

A. (3) Exhibits.

EXHIBIT INDEX
for Form 10-K for the 2019 Fiscal Year

Exhibit Number	Description
3.1	Amended and Restated Articles of Incorporation of the Company--incorporated by reference to Exhibit 3.1 of the Company's Form 10-Q dated February 9, 2015*
3.2	Third Amended and Restated Bylaws of the Company--incorporated by reference to Exhibit 3.1 of the Company’s Form 8-K dated February 1, 2018*
10.1**	Management Incentive Plan--incorporated by reference to Exhibit 10.13 of the Company's Form 10-K for the year ended June 30, 2013*
10.2**	Second Amended and Restated 2010 Equity Incentive Plan--incorporated by reference to Exhibit 10.1 of the Company's Form 8-K dated October 26, 2017*
10.3**	Form of Restricted Stock Award Agreement for Second Amended and Restated 2010 Equity Incentive Plan--incorporated by reference to Exhibit 10.6 of the Company's Form 8-K dated October 26, 2017*
10.4**	Form of Restricted Stock Unit Award Agreement for Second Amended and Restated 2010 Equity Incentive Plan attached as Exhibit 10.4 of the Company’s form 10-K dated August 28, 2019.
10.5**	Form of the Performance Unit Award Agreement for Second Amended and Restated 2010 Equity Incentive Plan attached as Exhibit 10.5 of the Company’s form 10-K dated August 28, 2019.
10.6**	Form of Incentive Stock Option Agreement for Second Amended and Restated 2010 Equity Incentive Plan--attached as Exhibit 10.6 of the Company’s form 10-K dated August 28, 2019.
10.7**	Form of Employee Non-Qualified Stock Option Agreement for Second Amended and Restated 2010 Equity Incentive Plan--attached as Exhibit 10.7 of the Company’s form 10-K dated August 28, 2019.
10.8**	Form of Director Non-Qualified Stock Option Agreement for Second Amended and Restated 2010 Equity Incentive Plan--incorporated by reference to Exhibit 10.2 of the Company's Form 8-K dated October 26, 2017*
10.9**	Employment Agreement by and between the Company and Charles Kummeth--incorporated by reference to Exhibit 10.11 of the Company's Form 10-K dated September 7, 2017*

Exhibit Number	Description
10.10**	Form of Employment Agreement by and between the Company and Executive Officers of the Company other than the CEO--incorporated by reference to Exhibit 10.12 of the Company's Form 10-K dated September 7, 2017*
10.11	Credit Agreement by and among the Company, the Guarantors party thereto, the Lenders party thereto, and BMO Harris Bank N.A., as Administrative Agent, dated August 1, 2018--incorporated by reference to Exhibit 10.1 of the Company's Form 8-K dated August 2, 2018*
10.12**	Form of Indemnification Agreement entered into with each director and executive officer of the Company--incorporated by reference to Exhibit 10.1 of the Company's Form 10-Q dated February 8, 2018*
10.13	Agreement and Plan of Merger by and among the Company, Aero Merger Sub Inc., Advanced Cell Diagnostics, Inc. and Fortis Advisors, LLC as the Securityholders' Representative, dated July 6, 2016--incorporated by reference to Exhibit 2.1 of the Company's Form 8-K dated July 7, 2016*
10.14	Agreement and Plan of Merger between the Company, Enzo Merger Sub. Inc., Exosome Diagnostics, Inc. and The Securityholders Representative, dated July 25, 2018--incorporated by reference to Exhibit 2.1 of the Company's Form 8-K dated June 25, 2018*
21	Subsidiaries of the Company attached as exhibit 21 of the Company's form 10-K dated August 28, 2019.
23	Consent of KPMG LLP, Independent Registered Public Accounting Firm
31.1	Certification of Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
31.2	Certification of Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
32.1	Certification of Chief Executive Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
32.2	Certification of Chief Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
101	The following financial statements from the Company's Annual Report on Form 10-K for the fiscal year ended June 30, 2019, formatted in Extensible Business Reporting Language (XBRL): (i) the Consolidated Statements of Earnings and Comprehensive Income, (ii) the Consolidated Balance Sheets, (iii) the Consolidated Statements of Shareholders' Equity, (iv) the Consolidated Statements of Cash Flows, and (v) Notes to the Consolidated Financial Statements.

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* Incorporated by reference; SEC File No. 000-17272

** Management contract or compensatory plan or arrangement

Exhibits for Form 10-K have not been included in this report. Exhibits have been filed with the Securities and Exchange Commission. Upon request to the Investor Relations Department, Bio-Techne Corporation will furnish, without charge, any such exhibits as well as copies of periodic reports filed with the Securities and Exchange Commission.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this Report to be signed on its behalf by the undersigned, thereunto duly authorized.

BIO-TECHNE CORPORATION

Date: November 6, 2019

/s/ Charles Kummeth
By: Charles Kummeth
Its: President and CEO

Pursuant to the requirements of the Securities Exchange Act of 1934, this Report has been signed by the following persons on behalf of the Registrant and in the capacities and on the dates indicated.

Date	Signature and Title
November 6, 2019	/s/ Robert V. Baumgartner Robert V. Baumgartner Chairman of the Board and Director
November 6, 2019	/s/ Rupert Vessey Dr. Rupert Vessey, Director
November 6, 2019	/s/ Joseph Keegan, Ph.D. Dr. Joseph Keegan, Director
November 6, 2019	/s/ John L. Higgins John L. Higgins, Director
November 6, 2019	/s/ Roeland Nusse, Ph.D. Dr. Roeland Nusse, Director
November 6, 2019	/s/ Alpna Seth, Ph.D. Dr. Alpna Seth, Director
November 6, 2019	/s/ Randolph C. Steer, Ph.D., M.D. Dr. Randolph C. Steer, Director
November 6, 2019	/s/ Harold J. Wiens Harold J. Wiens, Director
November 6, 2019	/s/ Charles Kummeth Charles Kummeth, Director and Chief Executive Officer (principal executive officer)
November 6, 2019	/s/ James Hippel James Hippel, Chief Financial Officer (principal financial officer and principal accounting officer)

Exhibit 23

Consent of Independent Registered Public Accounting Firm

The Board of Directors
Bio-Techne Corporation:

We consent to the incorporation by reference in the registration statement (No. 333-37263, 333-88885, 333-49962, 333-170576, 333-199847, 333-207710, and 333-221143) on Form S-8 of Bio-Techne Corporation of our reports dated August 28, 2019, with respect to the consolidated balance sheets of Bio-Techne Corporation as of June 30, 2019 and 2018, the related consolidated statements of earnings and comprehensive income, shareholders' equity, and cash flows for each of the years in the three-year period ended June 30, 2019, and the related notes (collectively, "the consolidated financial statements"), and the effectiveness of internal control over financial reporting as of June 30, 2019 which reports appear in the June 30, 2019 annual report on Form 10-K/A of Bio-Techne Corporation.

Our report refers to a change in the method of accounting for revenue.

Our report dated August 28, 2019, on the effectiveness of internal control over financial reporting as of June 30, 2019, contains an explanatory paragraph that states that management excluded from its assessment of the effectiveness of internal control over financial reporting as of June 30, 2019, the current year acquisitions of QT Holdings Corporation, Exosome Diagnostics, Inc. and B-MoGen Biotechnologies Inc.'s internal control over financial reporting associated with total assets of 17.2% and total revenue of 0.5% included in the consolidated financial statements of the Company as of and for the year ended June 30, 2019. Our audit of internal control over financial reporting of the Company also excluded an evaluation of the internal control over financial reporting of QT Holdings Corporation, Exosome Diagnostics, Inc. and B-MoGen Biotechnologies Inc.

/s/ KPMG LLP

Minneapolis, Minnesota
November 6, 2019

Exhibit 31.1

CERTIFICATION

I, Charles Kummeth, certify that:

1. I have reviewed this annual report on Form 10-K/A of Bio-Techne Corporation;

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

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

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

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

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

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

    d. disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonable likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officers 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 function):

    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: November 6, 2019

/s/ Charles Kummeth
Charles Kummeth
Chief Executive Officer

Exhibit 31.2

CERTIFICATION

I, James T. Hippel, certify that:

1. I have reviewed this annual report on Form 10-K/A of Bio-Techne Corporation;

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

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

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

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

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

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

    d. disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant’s fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonable likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant’s other certifying officers 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 function):

    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: November 6, 2019

/s/ James T. Hippel

James T. Hippel
Chief Financial Officer

Exhibit 32.1

BIO-TECHNE CORPORATION

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

In connection with the Annual Report of Bio-Techne Corporation (the “Company”) on Form 10-K/A for the year ended June 30, 2019 as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Charles Kummeth, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

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

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

/s/ Charles Kummeth
Charles Kummeth
Chief Executive Officer
November 6, 2019

BIO-TECHNE CORPORATION

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

In connection with the Annual Report of Bio-Techne Corporation (the "Company") on Form 10-K/A for the year ended June 30, 2019 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, James T. Hippel, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

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

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

/s/ James T. Hippel
James T. Hippel
Chief Financial Officer
November 6, 2019