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

FORM 10-Q

(Mark One)

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

For the quarterly period ended June 30, 2017

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: 001-36030

Marrone Bio Innovations, Inc.
(Exact name of registrant as specified in its charter)

Delaware	**20-5137161**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**

1540 Drew Avenue, Davis, CA 95618
(Address of principal executive offices and zip code)

(530) 750-2800
(Registrant's telephone number, including area code)

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

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

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

Large accelerated filer	☐		Accelerated filer	☐
Non-accelerated filer	☐	(Do not check if a smaller reporting company)	Smaller reporting company	☒
Emerging growth Company ☒				

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

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

Class	Shares Outstanding at August 8, 2017
Common Stock, $0.00001 par value	**31,350,877**

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PART I. FINANCIAL INFORMATION
ITEM 1. FINANCIAL STATEMENTS (UNAUDITED)

MARRONE BIO INNOVATIONS, INC.
Condensed Consolidated Balance Sheets
(In Thousands, Except Par Value)

	JUNE 30, 2017 (Unaudited)	DECEMBER 31, 2016
Assets		
Current assets:		
Cash and cash equivalents	$ 10,242	$ 9,609
Restricted cash, current portion	1,444	1,444
Accounts receivable	5,794	3,592
Inventories, net	8,364	8,482
Deferred cost of product revenues	3,410	2,688
Prepaid expenses and other current assets	387	1,060
Total current assets	29,641	26,875
Property, plant and equipment, net	16,476	17,343
Restricted cash, less current portion	1,560	1,560
Other assets	140	205
Total assets	$ 47,817	$ 45,983
Liabilities and stockholders' deficit		
Current liabilities:		
Accounts payable	$ 3,197	$ 1,385
Accrued liabilities	6,730	5,508
Accrued interest due to related parties	1,596	1,618
Deferred revenue, current portion	6,755	5,647
Capital lease obligations, current portion	487	839
Debt, current portion	2,954	252
Total current liabilities	21,719	15,249
Deferred revenue, less current portion	2,186	1,787
Debt, less current portion	21,029	21,083
Debt due to related parties	37,240	36,667
Other liabilities	1,293	1,381
Total liabilities	83,467	76,167
Commitments and contingencies *(Note 8)*		
Stockholders' deficit:		
Preferred stock: $0.00001 par value; 20,000 shares authorized and no shares issued or outstanding at June 30, 2017 and December 31, 2016	—	—
Common stock: $0.00001 par value; 250,000 shares authorized, 31,351 shares issued and outstanding as of June 30, 2017 and 24,661 as of December 31, 2016	—	—
Additional paid in capital	214,011	204,463
Accumulated deficit	(249,661)	(234,647)
Total stockholders' deficit	(35,650)	(30,184)
Total liabilities and stockholders' deficit	$ 47,817	$ 45,983

See accompanying notes.

MARRONE BIO INNOVATIONS, INC.
Condensed Consolidated Statements of Operations
(In Thousands, Except Per Share Amounts)
(Unaudited)

	THREE MONTHS ENDED JUNE 30,		SIX MONTHS ENDED JUNE 30,	
	2017	2016	2017	2016
Revenues:				
Product	$ 6,418	$ 4,957	$ 10,514	$ 7,534
License	58	92	116	184
Total revenues	6,476	5,049	10,630	7,718
Cost of product revenues	3,966	3,118	6,245	5,387
Gross profit	2,510	1,931	4,385	2,331
Operating Expenses:				
Research, development and patent	2,853	2,313	5,297	4,635
Selling, general and administrative	5,073	4,512	10,416	10,042
Total operating expenses	7,926	6,825	15,713	14,677
Loss from operations	(5,416)	(4,894)	(11,328)	(12,346)
Other income (expense):				
Interest income	—	10	1	25
Interest expense	(869)	(759)	(1,505)	(1,509)
Interest expense to related parties	(1,085)	(1,083)	(2,159)	(2,166)
Other income (expense), net	(15)	(57)	(23)	(63)
Total other expense, net	(1,969)	(1,889)	(3,686)	(3,713)
Loss before income taxes	(7,385)	(6,783)	(15,014)	(16,059)
Income taxes	—	—	—	—
Net loss	$ (7,385)	$ (6,783)	$ (15,014)	$ (16,059)
Basic and diluted net loss per common share	$ (0.25)	$ (0.28)	$ (0.55)	$ (0.65)
Weighted-average shares outstanding used in computing net loss per common share	29,401	24,598	27,070	24,584

See accompanying notes.

MARRONE BIO INNOVATIONS, INC.
Condensed Consolidated Statements of Comprehensive Loss
(In Thousands)
(Unaudited)

	THREE MONTHS ENDED JUNE 30,		SIX MONTHS ENDED JUNE 30,	
	2017	2016	2017	2016
Net loss	$ (7,385)	$ (6,783)	$ (15,014)	$ (16,059)
Other comprehensive loss	—	—	—	—
Comprehensive loss	$ (7,385)	$ (6,783)	$ (15,014)	$ (16,059)

See accompanying notes.

MARRONE BIO INNOVATIONS, INC.
Condensed Consolidated Statements of Cash Flows
(In Thousands)
(Unaudited)

	SIX MONTHS ENDED JUNE 30, 2017	SIX MONTHS ENDED JUNE 30, 2016
Cash flows from operating activities		
Net loss	$ (15,014)	$ (16,059)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	1,034	1,150
Loss (gain) on disposal of equipment	(4)	58
Share-based compensation	1,169	1,327
Non-cash interest expense	730	657
Net changes in operating assets and liabilities:		
Accounts receivable	(2,202)	(2,196)
Inventories	118	1,068
Prepaid expenses and other assets	738	403
Deferred cost of product revenues	(722)	(430)
Accounts payable	1,595	196
Accrued and other liabilities	1,242	(1,419)
Accrued interest due to related parties	(22)	425
Deferred revenue	1,507	1,449
Deferred revenue from related parties	—	(168)
Net cash used in operating activities	(9,831)	(13,539)
Cash flows from investing activities		
Purchases of property, plant and equipment	(160)	(93)
Net cash used in investing activities	(160)	(93)
Cash flows from financing activities		
Proceeds from issuance of common stock, net of offering costs	8,223	—
Repayment of debt	(134)	(129)
Proceeds from secured borrowings	6,151	—
Reductions in secured borrowings	(3,281)	—
Repayment of capital leases	(352)	(346)
Change in restricted cash	—	15,412
Exercise of stock options	17	16
Net cash provided by financing activities	10,624	14,953
Net increase in cash and cash equivalents	633	1,321
Cash and cash equivalents, beginning of period	9,609	19,838
Cash and cash equivalents, end of period	$ 10,242	$ 21,159
Supplemental disclosure of cash flow information		
Cash paid for interest	$ 2,938	$ 2,595
Supplemental disclosure of non-cash investing and financing activities		
Property, plant and equipment included in accounts payable and accrued liabilities	$ 7	$ 24
Financing costs in accounts payable	$ 215	$ —
Equipment acquired under capital leases	$ —	$ 1,586

See accompanying notes.

1. Summary of Business, Basis of Presentation and Liquidity

Marrone Bio Innovations, Inc. ("Company"), formerly Marrone Organic Innovations, Inc., was incorporated under the laws of the State of Delaware on June 15, 2006, and is located in Davis, California. In July 2012, the Company formed a wholly-owned subsidiary, Marrone Michigan Manufacturing LLC ("MMM LLC"), which holds the assets of a manufacturing plant the Company purchased in July 2012. These consolidated financial statements include the accounts of the Company and its wholly-owned subsidiary. All significant intercompany balances and transactions have been eliminated in consolidation. The Company makes bio-based pest management and plant health products. The Company targets the major markets that use conventional chemical pesticides, including certain agricultural and water markets where its bio-based products are used as alternatives for, or mixed with, conventional chemical pesticides. The Company also targets new markets for which (i) there are no available conventional chemical pesticides or (ii) the use of conventional chemical pesticides may not be desirable or permissible either because of health and environmental concerns (including for organically certified crops) or because the development of pest resistance has reduced the efficacy of conventional chemical pesticides. The Company delivers EPA-approved and registered biopesticide products and other bio-based products that address the global demand for effective, safe and environmentally responsible products.

In April 2017, the Company completed an underwritten public offering of 6,571,000 registered shares of its common stock (inclusive of 857,000 shares of its common stock to cover over-allotments). The public offering price of the shares sold in the offering was $1.40 per share. The total gross proceeds to the Company from the offering were approximately $9,200,000, and after deducting underwriting discounts and commissions and estimated offering expenses payable by the Company, the aggregate net proceeds to the Company totaled approximately $8,200,000.

The Company is an early stage company with a limited operating history and has a limited number of commercialized products. As of June 30, 2017, the Company had an accumulated deficit of $249,661,000, has incurred significant losses since inception and expects to continue to incur losses for the foreseeable future. The Company has funded operations primarily with net proceeds from public offerings of common stock, private placements of convertible preferred stock, convertible notes, and promissory notes and term loans, as well as with the proceeds from the sale of its products and payments under strategic collaboration and distribution agreements and government grants. The Company will need to generate significant revenue growth to achieve and maintain profitability. As of June 30, 2017, the Company had working capital of $7,922,000, including cash and cash equivalents of $10,242,000. As of June 30, 2017, the Company had debt and debt due to related parties of $23,983,000 and $37,240,000, respectively, for which the underlying debt agreements contain various financial and non-financial covenants, as well as a material adverse change clause. In addition, as of June 30, 2017, the Company had a total of $3,004,000 of restricted cash relating to a debt agreement (see Note 6).

The Company believes that its existing cash and cash equivalents of $10,242,000 at June 30, 2017, expected revenues and incremental borrowings, if any, from LSQ Financing (as defined and discussed in Note 6) will not be sufficient to fund operations as currently planned through one year from the date of the issuance of these financial statements, which raises substantial doubt as to the Company's ability to continue as a going concern. The Company has based this belief on assumptions and estimates that may prove to be wrong, and the Company could spend its available financial resources less or more rapidly than currently expected. The Company will continue to require additional sources of cash for general corporate purposes, which may include operating expenses, working capital to improve and promote its commercially available products, advance product candidates, expand international presence and commercialization, general capital expenditures and satisfaction of debt obligations. Management intends to seek additional capital through equity and/or debt financings, collaborative or other funding arrangements with partners, or through other sources of financing. Should the Company seek additional financing from outside sources, the Company may not be able to raise such financing on terms acceptable to the Company or at all. If the Company is unable to raise additional capital when required or on acceptable terms, the Company may be required to scale back or to discontinue the promotion of currently available products, scale back or discontinue the advancement of product candidates, reduce headcount, sell assets, file for bankruptcy, reorganize, merge with another entity, or cease operations.

Additionally, if the Company breaches any of the covenants contained within the debt agreements or if the material adverse change clause is triggered, the entire unpaid principal and interest balances would be due and payable upon demand. Without entering into a continuation of its current waiver, which expires October 1, 2018, entering into strategic agreements that include significant cash payments upfront, significantly increasing revenues from sales or raising additional capital through the issuance of equity, the Company expects it will exceed its maximum debt-to-worth requirement under a promissory note with Five Star Bank. Further, a violation of a covenant in one debt agreement will cause the Company to be in violation of certain covenants under each of its other debt agreements. Breach of covenants included in the Company's debt agreements, which could result in the lenders demanding payment of the unpaid principal and interest balances, will have a material adverse effect upon the Company and would likely require the Company to seek to renegotiate these debt arrangements with the lenders. If such negotiations are unsuccessful, the Company may be required to seek protection from creditors through bankruptcy proceedings. The Company's inability to maintain compliance with its debt covenants could have a negative impact on the Company's financial condition and ability to continue as a going concern.

The June 2014 Secured Promissory Note (as defined in Note 6) contains a material adverse change clause that could be invoked by the lender as a result of the uncertainty related to the Company's ability to continue as a going concern. If the lender were to declare an event of default, the entire amount of borrowings related to all debt agreements at that time would have to be reclassified as current in the financial statements. The lender has waived its right to deem recurring losses, liquidity, going concern, and financial condition a material adverse change through October 1, 2018. As a result, none of the long term portion of the Company's outstanding debt has been reclassified to current in these financial statements as of June 30, 2017.

The Company participates in a heavily regulated and highly competitive crop protection industry and believes that adverse changes in any of the following areas could have a material effect on the Company's future financial position, results of operations or cash flows: inability to obtain regulatory approvals, increased competition in the pesticide market, market acceptance of the Company's products, weather and other seasonal factors beyond the Company's control, litigation or claims against the Company related to intellectual property, patents, products or governmental regulation, and the Company's ability to support increased growth.

Although the Company recognizes that it will likely need to raise additional funds in the future, there can be no assurance that such efforts will be successful or that, in the event that they are successful, the terms and conditions of such financing will not be unfavorable. Any future equity financing is expected to result in dilution to existing shareholders and any debt financing is expected to include additional restrictive covenants. Any failure to obtain additional financing or to achieve the revenue growth necessary to fund the Company with cash flows from operations will have a material adverse effect upon the Company and will likely result in a substantial reduction in the scope of the Company's operations and impact the Company's ability to achieve its planned business objectives.

The accompanying financial statements have been prepared under the assumption that the Company will continue to operate as a going concern, which contemplates the realization of assets and the settlement of liabilities in the normal course of business. The consolidated financial statements do not include any adjustments to reflect the possible future effects on the recoverability and classification of assets or the amounts of liabilities that may result from the Company's inability to continue as a going concern.

If the Company becomes unable to continue as a going concern, the Company may have to liquidate its assets, and might realize significantly less than the values at which they are carried on its financial statements, and stockholders may lose all or part of their investment in the Company's common stock.

2. Significant Accounting Policies

Basis of Presentation

The accompanying financial information as of June 30, 2017, and for the three and six months ended June 30, 2017 and 2016, have been prepared by the Company, without audit, in accordance with generally accepted accounting principles in the United States ("GAAP") and applicable rules and regulations of the Securities and Exchange Commission ("SEC") regarding interim financial reporting. Certain information and note disclosures normally included in annual financial statements prepared in accordance with GAAP have been condensed or omitted pursuant to such SEC rules and regulations and accounting principles applicable for interim periods. However, the Company believes that the disclosures are adequate to make the information presented not misleading. The information included in this Quarterly Report on Form 10-Q should be read in connection with the consolidated financial statements and accompanying notes included in the Company's Annual Report filed on Form 10-K, for the fiscal year ended December 31, 2016.

In the opinion of management, the condensed consolidated financial statements as of June 30, 2017, and for the three and six months ended June 30, 2017 and 2016, reflect all adjustments, which are normal recurring adjustments, necessary to present a fair statement of financial position, results of operations, comprehensive loss and cash flows. The results of operations for the three and six months ended June 30, 2017 are not necessarily indicative of the operating results for the full fiscal year or any future periods.

Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities as of the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Cash and Cash Equivalents

The Company considers all highly liquid financial instruments purchased with a maturity of three months or less to be cash equivalents. Cash and cash equivalents consists of cash on deposit, money market funds and certificates of deposit accounts with United States ("U.S.") financial institutions. The Company is exposed to credit risk in the event of default by financial institutions to the extent that cash and cash equivalents balances with financial institutions are in excess of amounts that are insured by the Federal Deposit Insurance Corporation. The Company has not experienced any losses on these deposits.

Restricted Cash

The Company's restricted cash consists of cash that the Company is contractually obligated to maintain in accordance with the terms of its June 2014 Secured Promissory Note (as defined in Note 6). See Note 6 for further discussion.

Concentrations of Credit Risk

Financial instruments that potentially subject the Company to concentrations of credit risk consist principally of cash, cash equivalents, accounts receivable and debt. The Company deposits its cash and cash equivalents with high credit quality domestic financial institutions with locations in the U.S. Such deposits may exceed federal deposit insurance limits. The Company believes the financial risks associated with these financial instruments are minimal.

The Company's customer base is dispersed across many different geographic areas, and currently most customers are pest management distributors in the U.S. Generally, receivables are due up to 120 days from the invoice date and are considered past due after this date, although the Company may offer extended terms from time to time.

Revenues generated from international customers were, for the three months ended June 30, 2017 and 2016, 6% and 1%, respectively. Revenues generated from international customers were, for the six months ended June 30, 2017 and 2016, 9 % and 4%, respectively.

The Company's principal sources of revenues are its Regalia and Grandevo product lines. These two product lines accounted for 73% and 77% of the Company's total revenues for the three months ended June 30, 2017 and 2016, respectively, and 74% and 78% for the six months ended June 30, 2017 and 2016, respectively.

Customers to which 10% or more of the Company's total revenues are attributable for any one of the periods presented consist of the following:

	CUSTOMER A	CUSTOMER B
Three months ended June 30,		
2017	34%	9%
2016	34%	6%
Six months ended June 30,		
2017	27%	10%
2016	31%	6%

Customers to which 10% or more of the Company's outstanding accounts receivable are attributable as of either June 30, 2017 or December 31, 2016 consist of the following:

	CUSTOMER A	CUSTOMER B	CUSTOMER C	CUSTOMER D
June 30, 2017	28%	9%	—	13%
December 31, 2016	21%	10%	14%	1%

Concentrations of Supplier Dependence

The active ingredient in the Company's Regalia product line is derived from the giant knotweed plant, which the Company obtains from China. The Company currently has one supplier of this plant. Such single supplier acquires raw knotweed from numerous regional sources and performs an extraction process on this plant, creating a dried extract that is shipped to the Company's manufacturing plant. While the Company does not have a long-term supply contract with this supplier, the Company does have a long term business relationship with this supplier. The Company maintains 6 months of knotweed extract at any given time, but an unexpected disruption in supply could have an effect on Regalia supply and revenues. Although the Company has identified additional sources of raw knotweed, there can be no assurance that the Company will continue to be able to obtain dried extract from China at a competitive price.

Inventories

Inventories are stated at the lower of cost and net realizable value. Cost is determined on the first in, first out basis. The Company provides for inventory reserves when conditions indicate that the selling price may be less than cost due to physical deterioration, obsolescence, changes in price levels or other factors. Additionally, the Company provides reserves for excess and slow-moving inventory on hand that is not expected to be sold to reduce the carrying amount of excess and slow-moving inventory to its estimated net realizable value. The reserves are based upon estimates about future demand from the Company's customers and distributors as well as market conditions.

Deferred Cost of Product Revenues

Deferred cost of product revenues are stated at the lower of cost or net realizable value and include product sold where title has transferred but the criteria for revenue recognition have not been met. As of June 30, 2017 and December 31, 2016, the Company recorded deferred cost of product revenues of $3,410,000 and $2,688,000 respectively.

Revenue Recognition

The Company recognizes revenues when persuasive evidence of an arrangement exists, transfer of title has occurred or services have been rendered, the price is fixed or determinable and collectability is reasonably assured. If contractual obligations, acceptance provisions or other contingencies exist which indicate that the price is not fixed or determinable, revenue is recognized after such obligations or provisions are fulfilled or expire.

Product revenues consist of revenues generated from sales of the Company's products to distributors and direct customers, net of rebates and cash discounts. For sales of products made to distributors, the Company recognizes revenue either on a sell-in or sell-through basis depending on the specific facts and circumstances of the transaction(s) with the distributor. Factors considered include, but are not limited to, whether the payment terms offered to the distributor are structured to correspond to when product is resold, the distributor history of adhering to the terms of its contractual arrangements with the Company, whether the Company has a pattern of granting concessions for the benefit of the distributor and whether there are other conditions that may indicate that the sale to the distributor is not substantive.

In some cases, the Company recognizes distributor revenue as title and risk of loss passes, provided all other revenue recognition criteria have been satisfied (the "sell-in" method). For certain sales to certain distributors, the revenue recognition criteria for distributor sales are not satisfied at the time title and risk of loss passes to the distributor; for example, in instances where "inventory protection" arrangements were historically offered to distributors that permitted these distributors to return to the Company certain unsold products, the Company considers future arrangements with that distributor not to be fixed or determinable, and accordingly, revenue with that distributor is deferred until products are resold to customers of the distributor (the "sell-through" method). As of June 30, 2017 and December 31, 2016, the Company recorded current deferred product revenues of $6,503,000 and $5,411,000, respectively. In addition, the Company had $532,000 in deferred product revenue that was classified as long-term as of June 30, 2017. There was no deferred product revenues classified as long term as of December 31, 2016. Included in deferred revenue as of June 30, 2017 and December 31, 2016 but excluded from deferred product revenues is deferred revenue related to license revenues. As of June 30, 2017, the Company recorded current and non-current deferred revenues of $252,000 and $1,654,000, respectively, related to payments received under licensing agreements as discussed further below. As of December 31, 2016, the Company recorded current and non-current deferred revenues of $236,000 and $1,787,000, respectively, related to payments received under licensing agreements as discussed further below. The cost of product revenues associated with such deferrals are also deferred and classified as deferred cost of product revenues in the consolidated balance sheets. Cash received from customers related to delivered product that may not represent a true sale is classified as customer refund liabilities in the consolidated balance sheets and the related cost of inventory remains in inventory in the consolidated balance sheets until the product is returned or is resold to customers of the distributor and revenue is recognized. During the three months ended June 30, 2017 and 2016, 52% and 64%, respectively, and for the six months ended June 30, 2017 and 2016, 41% and 52%, respectively, of total revenues were recognized on a sell-through basis.

From time to time, the Company offers certain product rebates to its distributors and growers, which are estimated and recorded as reductions to product revenues, and an accrued liability is recorded at the later of when the revenues are recorded or the rebate is being offered.

The Company recognizes license revenues pursuant to strategic collaboration and distribution agreements under which the Company receives payments for the achievement of certain testing validation, regulatory progress and commercialization events. As these activities and payments are associated with exclusive rights that the Company provides in connection with strategic collaboration and distribution agreements over the term of the agreements, revenues related to the payments received are deferred and recognized over the term of the exclusive distribution period of the respective agreement. No payments were received under these agreements for the three and six months ended June 30, 2017. For the three and six months ended June 30, 2016, the Company had received payments totaling $300,000 under these agreements. For the three months ended June 30, 2017 and 2016, the Company recognized $58,000 and $92,000, respectively, as license revenues. For the six months ended June 30, 2017 and 2016, the Company recognized $116,000 and $184,000, respectively, as license revenues.

Research, Development and Patent Expenses

Research and development expenses include payroll-related expenses, field trial costs, toxicology costs, regulatory costs, consulting costs and lab costs. Patent expenses include legal costs relating to the patents and patent filing costs. These costs are expensed to operations as incurred. For the three months ended June 30, 2017 and 2016, research and development expenses totaled $2,555,000 and $2,091,000, respectively, and patent expenses totaled $298,000 and $222,000, respectively. For the six months ended June 30, 2017 and 2016, research and development expenses totaled $4,693,000 and $4,157,000 , respectively, and patent expenses totaled $604,000 and $478,000, respectively.

Net Loss per Share

Net loss per share is computed by dividing the net loss by the weighted average number of common shares outstanding for the period. The calculation of basic and diluted net loss per share is the same for all periods presented as the effect of the potential common stock equivalents, which consist of stock options and warrants to purchase common stock, are anti-dilutive due to the Company's net loss position. Anti-dilutive common stock equivalents are excluded from diluted net loss per share. The following table sets forth the potential shares of common stock as of the end of each period presented that are not included in the calculation of diluted net loss per share because to do so would be anti-dilutive (in thousands):

	JUNE 30,	
	2017	2016
Stock options outstanding	3,300	2,822
Warrants to purchase common stock	4,232	4,027
Restricted stock units outstanding	522	415

Recently Adopted Accounting Pronouncements

In November 2015, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update No. 2015-17, Balance Sheet Classification of Deferred Taxes ("ASU 2015-17"), which amends the current requirement for organizations to present deferred tax assets and liabilities as current and noncurrent in a classified balance sheet. Organizations will now be required to classify all deferred tax assets and liabilities as noncurrent. ASU 2015-17 is effective for public companies for financial statements issued for fiscal years beginning after December 15, 2016, including interim periods within those fiscal years. Early adoption is permitted. The amendments may be applied prospectively to all deferred tax liabilities and assets or retrospectively to all periods presented. The Company adopted ASU 2015-17 effective January 1, 2017. Adoption of this standard did not have a material impact on the Company's consolidated financial position, results of operations or cash flows.

In March 2016, the FASB issued Accounting Standards Update No. 2016-09, Compensation—Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting ("ASU 2016-09"). The amendments are effective for public companies for annual periods beginning after December 15, 2016, and interim periods within those annual periods. Several aspects of the accounting for share-based payment award transactions are simplified, including: (a) income tax consequences; (b) classification of awards as either equity or liabilities; and (c) classification on the statement of cash flows. The Company adopted ASU 2016-09 effective January 1, 2017. Adoption of this standard did not have a material impact on the Company's consolidated financial position, results of operations or cash flows.

In July 2015, the FASB issued Accounting Standards Update No. 2015-11, Inventory (Topic 330): Simplifying the Measurement of Inventory ("ASU 2015-11"), which applies guidance on the subsequent measurement of inventory. ASU 2015-11 states that an entity should measure inventory at the lower of cost and net realizable value. Net realizable value is the estimated selling price in the ordinary course of business, less reasonable predictable costs of completion, disposal and transportation. The guidance excludes inventory measured using last-in, first-out or the retail inventory method. ASU 2015-11 is effective for interim and annual reporting periods beginning after December 15, 2016 including interim periods within those fiscal years. Early adoption is permitted. The Company did not early adopt ASU 2015-11. The Company adopted ASU 2015-11 effective January 1, 2017. Adoption of this standard did not have a material impact on the Company's consolidated financial position, results of operations or cash flow.

Recently Issued Accounting Pronouncements

In August 2016, the FASB issued Accounting Standards Update No. 2016-15, Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments ("ASU 2016-15"). The amendments in this update clarify how certain cash receipts and cash payments are presented and classified in the statement of cash flows. ASU No. 2016-15 will be effective for fiscal years beginning after December 15, 2017, with early adoption permitted. The Company has not elected to early adopt this guidance and is currently evaluating ASU 2016-15 to determine the impact to its consolidated financial statements.

In June 2016, the FASB issued Accounting Standards Update No. 2016-13, Financial Instruments—Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments ("ASU 2016-13"). ASU 2016-13 introduces a new forward-looking approach, based on expected losses, to estimate credit losses on certain types of financial instruments, including trade receivables. The estimate of expected credit losses will require entities to incorporate considerations of historical information, current information and reasonable and supportable forecasts. ASU 2016-13 also expands the disclosure requirements to enable users of financial statements to understand the entity's assumptions, models and methods for estimating expected credit losses. For public business entities that meet the definition of a Securities and Exchange Commission filer, ASU 2016-13 is effective for annual and interim reporting periods beginning after December 15, 2019, and the guidance is to be applied using the modified-retrospective approach. Earlier adoption is permitted for annual and interim reporting periods beginning after December 15, 2018. The Company is currently evaluating ASU 2016-13 to determine the impact to its consolidated financial statements and related disclosures.

In February 2016, the FASB issued Accounting Standards Update No. 2016-02, Leases (Topic 842) Leases: Amendments to the FASB Accounting Standards Codifications ("ASU 2016-02"), to increase transparency and comparability among organizations by recognizing lease assets and lease liabilities on the balance sheet and disclosing key information about leasing arrangements. ASU 2016-02 is effective for public companies for financial statements issued for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. Early adoption is permitted. Companies must apply a modified retrospective transition approach for leases existing at, or entered into after, the beginning of the earliest comparative period presented in the financial statements. The modified retrospective approach would not require any transition accounting for leases that expired before the earliest comparative period presented. Lessees and lessors may not apply a full retrospective transition approach. The Company is currently evaluating ASU 2016-02 to determine the potential impact to its consolidated financial statements and related disclosures.

In January 2016, the FASB issued Accounting Standards Update 2016-01, Financial Instruments – Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities ("ASU 2016-01"). ASU 2016-01 applies to all entities that hold financial assets or owe financial liabilities and is intended to provide more useful information on the recognition, measurement, presentation and disclosure of financial instruments. Among other things, ASU 2016-01 (i) requires equity investments (except those accounted for under the equity method of accounting or those that result in consolidation of the investee) to be measured at fair value with changes in fair value recognized in net income; (ii) simplifies the impairment assessment of equity investments without readily determinable fair values by requiring a qualitative assessment to identify impairment; (iii) eliminates the requirement to disclose the fair value of financial instruments measured at amortized cost for entities that are not public business entities; (iv) eliminates the requirement for public business entities to disclose the method(s) and significant assumptions used to estimate the fair value that is required to be disclosed for financial instruments measured at amortized cost on the balance sheet; (v) requires public business entities to use the exit price notion when measuring the fair value of financial instruments for disclosure purposes; (vi) requires an entity to present separately in other comprehensive income the portion of the total change in the fair value of a liability resulting from a change in the instrument-specific credit risk when the entity has elected to measure the liability at fair value in accordance with the fair value option for financial instruments; (vii) requires separate presentation of financial assets and financial liabilities by measurement category and form of financial asset (that is, securities or loans and receivables) on the balance sheet or the accompanying notes to the financial statements; and (viii) clarifies that an entity should evaluate the need for a valuation allowance on a deferred tax asset related to available-for-sale securities in combination with the entity's other deferred tax assets. For public business entities, ASU 2016-01 is effective for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. The Company is currently evaluating ASU 2016-01 to determine the potential impact to its consolidated financial statements and related disclosures.

In May 2014, the FASB issued Accounting Standards Update No. 2014-09, Revenue from Contracts with Customers (Topic 606) ("ASU 2014-09"). ASU 2014-09 and its related amendments provide new, globally applicable converged guidance concerning recognition and measurement of revenue. The new guidance requires the application of a five-step model to determine the amount and timing of revenue to be recognized. The underlying principle is that revenue is to be recognized for the transfer of goods or services to customers that reflects the amount of consideration that the Company expects to be entitled to in exchange for those goods or services. Additionally, significant additional disclosures are required about the nature, amount, timing and uncertainty of revenue and cash flows arising from contracts with customers. The new guidance is effective for annual and interim periods beginning on or after December 15, 2017. ASU 2014-09 allows for either full retrospective or modified retrospective adoption. The full retrospective method requires ASU 2014-09 be applied to each prior period presented in the year of adoption and the cumulative effect of adoption would be reflected at the beginning of the year of adoption. The modified retrospective method has the cumulative effect of applying ASU 2014-09 at the beginning of the year of adoption. The Company is currently evaluating the transition method that will be elected and the potential effects of adopting the provisions of ASU 2014-09.

The Company is continuing to assess the impact of the new guidance on its accounting policies and procedures and is evaluating the new requirements as applied to existing revenue contracts. Although the Company is continuing to assess the impact of the new guidance, the Company believes the most significant impact will relate to the recognition of product sales made to distributors. The Company currently recognizes revenue from the sale of products made to distributors on either a sell-in or sell-through basis depending on the specific circumstances of the arrangement. The new guidance will likely result in an acceleration of revenue as under the new standard, the Company may no longer be required to defer revenues related to distributors that are currently recognized on the sell-through basis. This change will also impact our balance sheet presentation with an expected decrease in deferred revenues, deferred cost of product revenues and net period-specific increases to retained earnings for the change in revenue recognition for current sell-through basis contracts. The Company is reviewing its revenue contracts and working on its plan for implementation of the new guidance which it will adopt beginning in the first quarter of 2018.

3. Fair Value Measurements

Accounting Standards Codification ("ASC") 820, *Fair Value Measurements* ("ASC 820"), clarifies that fair value is an exit price, representing the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. As such, fair value is a market-based measurement that should be determined based on assumptions that market participants would use in pricing an asset or liability.

ASC 820 requires that the valuation techniques used to measure fair value must maximize the use of observable inputs and minimize the use of unobservable inputs. ASC 820 establishes a three tier value hierarchy, which prioritizes inputs that may be used to measure fair value as follows:

- Level 1—Quoted prices in active markets for identical assets or liabilities.
- Level 2—Observable inputs other than quoted prices in active markets for identical assets and liabilities, quoted prices for identical or similar assets or liabilities in inactive markets or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.
- Level 3—Inputs that are generally unobservable and typically reflect management's estimate of assumptions that market participants would use in pricing the asset or liability.

The following table presents the Company's financial assets measured at fair value on a recurring basis as of June 30, 2017 and December 31, 2016 (in thousands):

	JUNE 30, 2017			
	TOTAL	LEVEL 1	LEVEL 2	LEVEL 3
Assets				
Money market funds	$ —	$ —	$ —	$ —

	DECEMBER 31, 2016			
	TOTAL	LEVEL 1	LEVEL 2	LEVEL 3
Assets				
Money market funds	$ 3,752	$ 3,752	$ —	$ —

The Company's money market funds are held at registered investment companies. As of December 31, 2016, the money market funds were in active markets and, therefore, are measured based on the Level 1 valuation hierarchy.

4. Inventories

Inventories, net consist of the following (in thousands):

As of June 30, 2017 and December 31, 2016, the Company had $267,000 and $127,000, respectively, in reserves against its inventories.

	JUNE 30, 2017	DECEMBER 31, 2016
Raw materials	$ 2,774	$ 3,491
Work in progress	2,001	2,044
Finished goods	3,589	2,947
	$ 8,364	$ 8,482

5. Accrued Liabilities

Accrued liabilities consist of the following (in thousands):

		JUNE 30, 2017		DECEMBER 31, 2016
Accrued compensation	$	1,061	$	1,403
Accrued warranty costs		608		754
Accrued legal costs		759		569
Accrued customer incentives		2,398		639
Accrued liabilities, other		1,904		2,143
	$	6,730	$	5,508

The Company warrants the specifications and/or performance of its products through implied product warranties and has extended product warranties to qualifying customers on a contractual basis. The Company estimates the costs that may be incurred during the warranty period and records a liability in the amount of such costs at the time product is shipped. The Company's estimate is based on historical experience and estimates of future warranty costs as a result of increasing usage of the Company's products. During the six months ended June 30, 2017, the Company recognized $124,000 in warranty expense associated with product shipments for the period. This expense was reduced by $260,000 as a result of the historical usage of warranty reserves being lower than previously estimated. The Company periodically assesses the adequacy of its recorded warranty liability and adjusts the amount as necessary. Changes in the Company's accrued warranty costs during the period are as follows (in thousands):

Balance at December 31, 2016	$	754
Warranties issued (released) during the period		(136)
Settlements made during the period		(10)
Balance at June 30, 2017	$	608

6. Debt

Debt, including debt due to related parties, consists of the following (in thousands):

	JUNE 30, 2017	DECEMBER 31, 2016
Secured promissory notes ("October 2012 and April 2013 Secured Promissory Notes") bearing interest at 14.00% per annum, payable monthly through October 2018, collateralized by substantially all of the Company's assets, net of unamortized debt discount as of June 30, 2017 and December 31, 2016 of $166 and $228, respectively, with an imputed interest rate of 15.5%	$ 12,284	$ 12,222
Secured promissory note ("June 2014 Secured Promissory Note") bearing interest at prime plus 2% (6.0% as of June 30, 2017) per annum, payable monthly through June 2036, collateralized by certain of the Company's deposit accounts and MMM LLC's inventories, chattel paper, accounts, equipment and general intangibles, net of unamortized debt discount as of June 30, 2017 and December 31, 2016 of $237 and $247, respectively, with an imputed interest rate of 6.1%	8,990	9,113
Secured revolving borrowing ("LSQ Financing") bearing interest at (12.8% annually) payable through the lenders direct collection of certain accounts receivable through March 2018, collateralized by substantially all of the Company's personal property, net of unamortized debt discount as of June 30, 2017 and December 31, 2016 of $161 and $0, respectively, with an imputed interest rate of 145%	2,709	—
Senior secured promissory notes due to related parties ("August 2015 Senior Secured Promissory Notes") bearing interest at 8% per annum, interest is payable biannually with principal payments due in increments at three, four and five years from the closing date, collateralized by substantially all of the Company's assets, net of unamortized discount as of June 30, 2017 and December 31, 2016 of $2,760 and $3,333, respectively with an imputed interest rate of 10.8% (see Note 9)	37,240	36,667
Debt, including debt due to related parties	61,223	58,002
Less debt due to related parties	(37,240)	(36,667)
Less current portion	(2,954)	(252)
	$ 21,029	$ 21,083

The fair value of the Company's outstanding debt obligations as of June 30, 2017 and December 31, 2016 was $24,406,000 and $21,611,000, respectively, which was estimated based on a discounted cash flow model using an estimated market rate of interest of 15% for the fixed rate debt and 6% for the variable rate debt, and is classified as Level 3 within the fair value hierarchy.

October 2012 and April 2013 Secured Promissory Notes

On October 2, 2012, the Company borrowed $7,500,000 pursuant to senior notes ("October 2012 Secured Promissory Notes") with a group of lenders. On April 10, 2013 ("Conversion Date"), the Company entered into an amendment to increase, by up to $5,000,000, the amount available under the terms of the loan agreement with respect to the October 2012 Secured Promissory Notes. Under this amendment, an additional $4,950,000 was issued in partial consideration for $3,700,000 in cash received and in partial conversion for the cancellation of a $1,250,000 subordinated convertible note (collectively, "April 2013 Secured Promissory Notes"). The total amount borrowed under the amended loan agreement for the October 2012 Secured Promissory Notes and the April 2013 Secured Promissory Notes increased from $7,500,000 to $12,450,000 as of the Conversion Date. The October 2012 and April 2013 Secured Promissory Notes bear interest at 14% at June 30, 2017. This loan is collateralized by substantially all of the Company's assets.

June 2014 Secured Promissory Note

In June 2014, the Company borrowed $10,000,000 pursuant to a business loan agreement and promissory note ("June 2014 Secured Promissory Note") with Five Star Bank ("Lender") which bears interest at 6% as of June 30, 2017. The interest rate is subject to change and is based on the prime rate plus 2.00% per annum. The June 2014 Secured Promissory Note is repayable in monthly payments of $67,058 and adjusted from time-to-time as the interest rate changes, with the final payment due in June 2036. Certain of the Company's deposit accounts and MMM LLC's inventories, chattel paper, accounts, equipment and general intangibles have been pledged as collateral for the promissory note. The Company is required to maintain a deposit balance with the Lender of $1,560,000, which is recorded as restricted cash included in non-current assets. In addition, until the Company provides documentation that the proceeds were used for construction of the Company's manufacturing plant, proceeds from the loan will be maintained in a restricted deposit account with the Lender. As of June 30, 2017, the Company had $1,444,000 remaining in this restricted deposit account, which is recorded as restricted cash included in current assets.

LSQ Financing

On March 24, 2017, the Company entered into an Invoice Purchase Agreement (the "LSQ Financing") with LSQ Funding Group, L.C. ("LSQ"), pursuant to which LSQ may elect to purchase up to $7,000,000 of eligible customer invoices from the Company. The Company's obligations under the LSQ Financing are secured by a lien on substantially all of the Company's personal property; such lien is first priority with respect to the Company's accounts receivable, inventory, and related property, pursuant to an intercreditor agreement, dated March 22, 2017 (the "Three Party Intercreditor Agreement"), with administrative agents for the October 2012 and April 2013 Secured Promissory Notes holders and the August 2015 Senior Secured Promissory Notes holders.

Advances by LSQ may be made at an advance rate of up to 80% of the face value of the receivables being sold. Upon the sale of the receivable, we will not maintain servicing. LSQ may require us to repurchase accounts receivable if (i) the payment is disputed by the account debtor, with the purchaser being under no obligation to determine the bona fides of such dispute, (ii) the account debtor has become insolvent or (iii) upon the effective date of the termination of the LSQ Financing. LSQ will retain its security interest in any accounts repurchased by the Company.

The Company pays to LSQ (i) an invoice purchase fee equal to 1% of the face amount of each purchased invoice, at the time of the purchase, and (ii) a funds usage fee equal to 0.035%, payable monthly in arrears. An aging and collection fee is charged at the time when the purchased invoice is collected, calculated as a percentage of the face amount of such invoice while unpaid (which percentage ranges from 0% to 0.35% depending upon the duration the invoice remains outstanding). The LSQ Financing will be effective for one year with automatic one year renewals thereafter unless terminated by the Company at least 60 and not greater than 90 days from the end of the then-effective term; a termination fee is due upon early termination by the Company if such termination is not requested within such 30-day window. LSQ may terminate this agreement with 30 days written notice at which time the LSQ Financing will be terminated at the earlier of the 30-day period, the end of the current term, or the end of the then renewal term. The events of default under the LSQ Financing include failure to pay amounts due, failure to turn over amounts due to LSQ within a cure period, breach of covenants, falsity of representations, and certain insolvency events. The Company incurred $215,000 in financing-related costs as part of the LSQ Financing that were recorded as a debt discount and amortized to interest expenses over the initial one-year term. The unamortized portion of these financing costs is $161,000 as of June 30, 2017.

In April 2017, the Company began receiving advances under the LSQ Financing. The Company accounted for sales of accounts receivable under the LSQ Financing as a secured borrowing in accordance with ASC 860, Transfers and Servicing.

Upon sale of the receivable, the Company may elect to set up a reserve where upon the cash for the sale remains with LSQ and the Company can draw on the available amount on the reserve account at any time. Since April 2017, there were times when the Company elected to utilize the reserve account, but there were no amounts outstanding under the reserve as of June 30, 2017. As of June 30, 2017, the Company had $4,844,000 included in accounts receivable that were transferred under this arrangement and had $0 in excess funds available on the reserve account.

7. Share-Based Plans

As of June 30, 2017, there were 3,300,000 options outstanding, 522,000 restricted stock units outstanding and 2,461,000 share-based awards available for grant under the outstanding equity incentive plans.

For the three months ended June 30, 2017 and 2016, the Company recognized share-based compensation of $587,000 and $710,000, respectively. For the six months ended June 30, 2017 and 2016, the Company recognized share-based compensation of $1,169,000 and $1,327,000, respectively.

During the three months ended June 30, 2017 and 2016, the Company granted 25,000 and 88,000 options, respectively, at a weighted-average exercise price of $1.31 and $0.84, respectively. During the six months ended June 30, 2017 and 2016, 56,000 and 951,000 options, respectively, were granted at a weighted-average exercise price of $1.75 and $1.18 per share, respectively. During the three months ended June 30, 2017 and 2016, 0 options were exercised. During the six months ended June 30, 2017, 14,000 and 37,000 options were exercised at a weighted-average exercise price of $1.21 and $0.43 per share, respectively.

The following table summarizes the activity of restricted stock units from December 31, 2016 to June 30, 2017 (in thousands, except weighted average grant date fair value):

	SHARES OUTSTANDING	WEIGHTED AVERAGE GRANT DATE FAIR VALUE
Nonvested at December 31, 2016	350	$ 1.23
Granted	107	$ 1.20
Vested	(380)	$ 0.88
Forfeited	—	—
Nonvested at June 30, 2017	77	$ 0.87

8. Commitments and Contingencies

Operating Leases

In September 2013 and then amended in April 2014, the Company entered into a lease agreement for approximately 27,300 square feet of office and laboratory space located in Davis, California. The initial term of the lease is for a period of 60 months and commenced in August 2014. The monthly base rent is $44,000 per month for the first 12 months with a 3% increase each year thereafter. Concurrent with this amendment, in April 2014, the Company entered into a lease agreement with an affiliate of the landlord to lease approximately 17,400 square feet of office and laboratory space in the same building complex in Davis, California. The initial term of the lease is for a period of 60 months and commenced in August 2014. The monthly base rent is $28,000 with a 3% increase each year thereafter.

On January 19, 2016, the Company entered into an agreement with a sublessee to sublease approximately 3,800 square feet of vacant office space located in Davis, California pursuant to the terms of its lease agreement. The initial term of the sublease is for a period of approximately 43 months and commenced on February 1, 2016. The monthly base rent is approximately $5,000 per month for the first 12 months with a 5% increase each year thereafter.

Litigation

On September 5, 2014, September 8, 2014, September 11, 2014, September 15, 2014 and November 3, 2014, the Company, along with certain of its current and former officers and directors and others were named as defendants in putative securities class action lawsuits filed in the U.S. District Court for the Eastern District of California. On February 13, 2015, these actions were consolidated as *Special Situations Fund III QP, L.P. et al v. Marrone Bio Innovations, Inc. et al*, Case No 2:14-cv-02571-MCE-KJN. On September 2, 2015, an initial consolidated complaint was filed on behalf of (i) all persons who purchased or otherwise acquired the Company's publicly traded common stock directly in or traceable to the Company's August 1, 2013 initial public offering; (ii) all persons who purchased or otherwise acquired the Company's publicly traded common stock directly in the Company's June 6, 2014 secondary offering; and (iii) all persons who purchased or otherwise acquired the Company's publicly traded common stock on the open market between March 7, 2014 and September 2, 2014 (the "Class Action"). The initial consolidated complaint also named certain of the Company's current and former officers and directors and the Company's independent registered public accounting firm as defendants. The initial consolidated complaint alleged violations of the Securities Act of 1933, the Securities Exchange Act of 1934 ("Exchange Act") and SEC Rule 10b-5, arising out of the issuance of allegedly false and misleading statements about the Company's business and prospects, including its financial statements, product revenues and system of internal controls. An amended consolidated complaint was filed on January 11, 2016. On March 15, 2016, lead plaintiffs moved to amend their consolidated complaint to, among other things, assert claims on behalf of all persons who purchased or otherwise acquired securities of the Company on the open market between August 1, 2013 and November 10, 2015. On April 4, 2016, counsel for the Company and its current and former officer and directors, counsel for the Company's primary and excess directors' and officers' liability insurers, and counsel for lead plaintiffs attended a private mediation before Jed D. Melnick at the JAMS offices in New York, New York. On May 25, 2016, the parties executed a final stipulation of settlement and lead plaintiff's counsel filed an unopposed motion for preliminary approval of the settlement. The stipulation provided for dismissal of the action as to the Company and the officer and director defendants, and a payment by the Company's insurers of $12.0 million to an escrow account, to be distributed upon order of the court. On May 27, 2016, the Federal Court approved lead plaintiffs' motion to amend their consolidated complaint. At the Federal Court's request, the settling parties revised the stipulation and papers in support of preliminary approval to reflect the amended consolidated complaint, and refiled for preliminary approval of the settlement on June 16, 2016. On July 8, 2016, the Federal Court granted preliminary approval of the class action settlement. On September 27, 2016, the Federal Court granted final approval of the settlement.

On September 9, 2014 and November 25, 2014, shareholder derivative actions were filed in the Superior Court of California, County of Yolo (Case No. CV14-1481) and the U.S. District Court for the Eastern District of California (Case No. 1:14-cv-02779-JAM-CKD), purportedly on the Company's behalf, against certain current and former officers and members of its board of directors (the "2014 Derivative Actions"). The plaintiffs in the 2014 Derivative Actions alleged that the defendants breached their fiduciary duties, committed waste, were unjustly enriched and aided and abetted breaches of fiduciary duty by causing the Company to issue allegedly false and misleading statements.

On October 14, 2015, a shareholder derivative action was filed in the Superior Court of California, County of Yolo (Case No. CV15-1423), purportedly on the Company's behalf, against certain current and former officers and members of the Company's board of directors and the Company's independent registered public accounting firm (the "2015 Derivative Action," and with the 2014 Derivative Actions, the "Derivative Actions"). The plaintiff in the 2015 Derivative Action alleged that the director and officer defendants breached their fiduciary duties, committed waste and were unjustly enriched by causing the Company to issue allegedly false and misleading statements and that the Company's independent registered public accounting firm committed professional negligence and malpractice. The issues in the 2014 Derivative Actions and 2015 Derivative Action overlap substantially with those at issue in the Class Action described above. On November 15, 2016, the Company, in its capacity as a nominal defendant, entered into a stipulation of settlement (the "Stipulation") in the Derivative Actions. On January 11, 2017, the Superior Court of California, County of Yolo entered an order preliminarily approving the settlement set forth in the Stipulation, and on April 5, 2017, it entered the final order and judgment approving the settlement set forth in the Stipulation. The Stipulation provides for dismissal of the shareholder derivative actions as to the Company, the certain current and former officers and members of the board of directors and the Company's independent registered public accounting firm, and the Company agrees to adopt or maintain certain corporate governance reforms for at least four years. The Stipulation also provides for attorneys' fees and expenses to be paid by the Company's insurers to plaintiffs' counsel. On June 22, 2017, plaintiffs in the derivative action in the U.S. District Court for the Eastern District of California filed a Notice of Voluntary Dismissal with Prejudice.

9. Related Party Transactions

August 2015 Senior Secured Promissory Notes

On August 20, 2015, the Company entered into a purchase agreement with Ivy Science & Technology Fund, Waddell & Reed Advisors Science & Technology Fund and Ivy Funds VIP Science and Technology, each an affiliate of Waddell & Reed, which is a beneficial owner of more than 5% of the Company's common stock. Pursuant to such purchase agreement, the Company sold to such affiliates senior secured promissory notes ("August 2015 Senior Secured Promissory Notes") in the aggregate principal amount of $40,000,000. The August 2015 Senior Secured Promissory Notes bear interest at a rate of 8% per annum payable semi-annually on June 30 or December 31 of each year, commencing on December 31, 2015, with $10,000,000 payable three years from the closing, $10,000,000 payable four years from the closing and $20,000,000 payable five years from the closing. On May 31, 2016, the terms of the August 2015 Secured Promissory Notes were amended to remove the provisions that had required the Company to maintain a $15 million minimum cash balance. Debt due to related parties as of June 30, 2017 was $37,240,000, net of unamortized debt discount of $2,760,000. The fair value of the Company's debt due to related parties was $38,660,000 and $38,120,000 as of June 30, 2017 and December 31, 2016, respectively, which was estimated based on a discounted cash flow model using an estimated market rate of interest of 11.25%, and is classified as Level 3 within the fair value hierarchy. Accrued interest due to related parties was $1,596,000 and $1,618,000 as of June 30, 2017 and December 31, 2016, respectively.

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

You should read the following discussion of our financial condition and results of operations in connection with our condensed consolidated financial statements and the related notes included elsewhere in this Quarterly Report on Form 10-Q ("Quarterly Report") and with our audited consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2016 ("Annual Report"), as filed with the Securities and Exchange Commission.

In addition to historical condensed consolidated financial information, this Quarterly Report on Form 10-Q contains forward-looking statements that reflect our plans, estimates and beliefs. Forward-looking statements are identified by words such as "believe," "will," "may," "estimate," "continue," "anticipate," "intend," "should," "plan," "expect," "predict," "could," "potentially" or the negative of these terms or similar expressions. You should read these statements carefully because they discuss future expectations, contain projections of future results of operations or financial condition, or state other "forward-looking" information. These statements relate to our future plans, objectives, expectations, intentions and financial performance and the assumptions that underlie these statements. For example, forward-looking statements include any statements regarding the strategies, prospects, plans, expectations or objectives of management for future operations, our expectations regarding registering or introduction of new products and new formulations and expanded use labels for existing products, the benefits that may be derived from product or the commercial or market opportunity of any product, our ability to protect intellectual property rights, our anticipated operations, financial position, revenues, costs or expenses, statements regarding future economic conditions or performance, statements of belief and any statement of assumptions underlying any of the foregoing. These forward-looking statements are subject to certain risks and uncertainties that could cause actual results to differ materially from those discussed in the forward-looking statements. Factors that could cause or contribute to these differences include those discussed below and elsewhere, including those discussed in our Quarterly Report, Part II, Item 1A—"Risk Factors" of this Quarterly Report, and in Part I—Item 1A—"Risk Factors" of our Annual Report. Forward-looking statements are based on our management's beliefs and assumptions and on information currently available to our management. These statements, like all statements in this report, speak only as of their date, and we undertake no obligation to update or revise these statements in light of future developments. We caution investors that our business and financial performance are subject to substantial risks and uncertainties.

Overview

We make bio-based pest management and plant health products. Bio-based products are comprised of naturally occurring microorganisms, such as bacteria and fungi, and plant extracts. Our current products target the major markets that use conventional chemical pesticides, including certain agricultural and water markets, where our bio-based products are used as alternatives for, or mixed with, conventional chemical products. We also target new markets for which (i) there are no available conventional chemical pesticides or (ii) the use of conventional chemical pesticides may not be desirable or permissible either because of health and environmental concerns (including for organically certified crops) or because the development of pest resistance has reduced the efficacy of conventional chemical pesticides. Five of six of our current products are approved by the United States Environmental Protection Agency ("EPA") and registered as "biopesticides." Our first non-EPA product is Haven, a plant health product, is a "biostimulant" which requires state registrations, but does not require EPA registration. We believe our current portfolio of products and our pipeline address the growing global demand for effective, efficient and environmentally responsible products to control pests, increase crop yields and reduce crop stress.

The agricultural industry is increasingly dependent on effective and sustainable pest management practices to maximize yields and quality in a world of increased demand for agricultural products, rising consumer awareness of food production processes and finite land and water resources. In addition, our research has shown that the global market for biopesticides is growing substantially faster than the overall market for pesticides. This demand is in part a result of conventional growers acknowledging that there are tangible benefits to adopting bio-based pest management products into integrated pest management ("IPM") programs, as well as increasing consumer demand for organic food. We seek to capitalize on these global trends by providing both conventional and organic growers with solutions to a broad range of pest management needs through strategies such as adding new products to our product portfolio, continuing to broaden the commercial applications of our existing product lines, leveraging growers' positive experiences with existing product lines, educating growers with on-farm product demonstrations and controlled product launches with key target customers and other early adopters. To that end, in March 2016 we entered into an agreement with Isagro USA to distribute Bio-Tam 2.0, a biofungicide for soil-borne disease control and grapevine trunk disease control that complements our existing products, particularly Regalia. In addition, in May 2017, we entered into an agreement with Jet Harvest Solutions to sell their contact Biofungicide, Jet-Ag in most regions of the United States. We believe this approach enables us to stay ahead of our competition in providing innovative pest management solutions, enhances our sales process at the distributor level and helps us to capture additional value from our products.

Our research and development efforts are focused on supporting existing commercial products, including Regalia, Grandevo, Venerate Majestene, and Haven with a focus on reducing cost of product revenues, further understanding the modes of action, manufacturing support and improving formulations. In addition, we have focused our internal efforts in developing and commercializing three promising products, Stargus and Amplitude Biofungicides (previously referred to as MBI-110) which has been submitted to the EPA for registration, Ennoble Biofumigant (previously referred to as MBI-601), which is EPA-registered and MBI-014 (formerly 010) bioherbicide. We continued under this focused plan to launch new products. We had the first sales of Majestene in 2016 and Haven in 2017. In addition, during 2016, we submitted our MBI-110 fungicide to the EPA for registration and received EPA registration for our biofumigant, MBI-601. Simultaneously, we are seeking collaborations with third parties to develop and commercialize more early stage candidates on which we have elected not to expend significant internal resources given our reduced budget. We believe collectively, these measures, together with our competitive strengths, including our leadership in the biologicals industry, commercially available products, robust pipeline of novel product candidates, proprietary discovery and development processes and industry experience, position us for growth.

We sell our crop protection products to leading agrichemical customers while also working directly with growers to increase existing and generate new product demand. To date, we have marketed our bio-based pest management and plant health products for agricultural applications to U.S. growers, through distributors and our own sales force, and we have focused primarily on high value specialty crops such as grapes, citrus, tomatoes and leafy greens. A large portion of our sales are currently attributable to conventional growers who use our bio-based pest management products either to replace conventional chemical pesticides or enhance the efficacy of their IPM programs. In addition, a portion of our sales are attributable to organic farmers who cannot use conventional pesticides and have few alternatives for pest management. As we continue to demonstrate the efficacy of our bio-based pest management and plant health products on new crops or for new applications, we may either continue to sell our products through our in-house sales force or collaborate with third parties for distribution to select markets.

Although we have historically sold a significant majority of our products in the United States, expanding our international presence and commercialization is an important component of our growth strategy. Regalia, Venerate and Grandevo are currently available in select international markets under distribution agreements with major agrichemical companies or regional distributors. Currently, our plan is to focus first on countries where we can gain the fastest registration approval to permit product launches while also pursuing key countries and regions with the largest and fastest growing biopesticide and plant health product markets for specialty crops and selected row crops. We are working with regional or national distributors in key countries who have brand recognition and established customer bases and who can conduct field trials and grower demonstrations and lead or assist in regulatory processes and market development.

We currently market our water treatment product, Zequanox, directly to a selected group of U.S. power and industrial companies. Due to our prioritization plan, we have not committed sufficient resources to Zequanox in order to market it full-scale. We are seeking sales and distribution partners for in-pipe and open water uses, and are currently in discussions with a large water treatment company to further develop Zequanox and expand it commercially. In addition, we continue to work with state, federal and bi-national partners to further develop Zequanox in the Great Lakes/Upper Mississippi River Basin as a habitat restoration tool and potential harmful algal bloom management tool. We believe that Zequanox presents a unique opportunity for generating long-term revenue as there are limited water treatment options available to date, most of which are time-consuming, costly or subject to high levels of regulation. Our ability to generate significant revenues from Zequanox from in-pipe treatments is dependent on our ability to persuade customers to evaluate the costs of our Zequanox products compared to the overall cost, and environmental impact, of the chlorine treatment process, the primary current alternative to using Zequanox, rather than the cost of purchasing chemicals alone. In the fourth quarter of 2015, we implemented a new process at our manufacturing plant that reduced the cost of product revenues to be more competitive with other mussel treatment chemicals. Sales of Zequanox have also remained lower than our other products due to our prioritization of our crop protection business, the length of the treatment cycle, the longer sales cycle (the bidding process with utility companies and governmental agencies occurs on a yearly or multi-year basis), the unique nature of the treatment approach for each customer based on the extent of the infestation and the design of the facility.

Although our initial EPA-approved master labels cover our products' anticipated crop-pest use combinations, we launch early formulations of our pest management and plant health products to targeted customers under commercial labels that list a limited number of crops and applications that our initial efficacy data can best support. We then gather new data from experiments, field trials and demonstrations, gain product knowledge and get feedback to our research and development team from customers, researchers and agricultural agencies. Based on this information, we enhance our products, refine our recommendations for their use in optimal IPM programs, expand our commercial labels and submit new product formulations to the EPA and other regulatory agencies. For example, we began sales of Regalia SC, an earlier formulation of Regalia, in the Florida fresh tomatoes market in 2008, while a more effective formulation of Regalia with an expanded master label, including listing for use in organic farming, was under review by the EPA. In 2011, we received EPA approval of a further expanded Regalia master label covering hundreds of crops and various new uses for applications to soil and through irrigation systems, and we recently expanded sales of Regalia in large-acre row crops as a plant health product, in addition to its beneficial uses as a fungicide. In January 2016, we launched a new formulation of Regalia that no

longer contains a solvent that is difficult to source and may experience future regulatory restrictions. This new formulation of Regalia disperses better in water and is easier to mix and rinse from containers and spray equipment. In addition, in June 2016, we launched a new formulation of Grandevo, Grandevo WDG, which offers improved handling and better, more convenient packaging. The water dispersible granule mixes easily in spray tanks with no dust or foam, which saves valuable time in the preparation and application processes. Similarly, ongoing field development research on the microbe used in Venerate, one of our insecticide products, led to our October 2015 registration of Majestene as a nematicide. We believe we have opportunities to broaden the commercial applications and expand the use of our existing products lines to help drive significant growth for our company.
Our total revenues were $6.5 million and $5.0 million for the three months ended June 30, 2017 and 2016, respectively, and $10.6 million and $7.7 million for the six months ended June 30, 2017 and 2016, respectively, and have risen as growers have adopted our products and have used our products on an expanded number of crops. We generate our revenues primarily from product sales, which are principally attributable to sales of our Regalia, Grandevo, Venerate, and Majestene product lines, but which also include sales of Bio-Tam 2.0 and Haven. We believe concerns regarding our ability to continue operations have impacted our ability to grow more robustly. Going forward, we believe our revenues will largely be impacted by weather, natural disasters and other factors affecting planting and growing seasons and incidence of pests and plant disease, and, accordingly, the decisions by our distributors, direct customers and end users about the types and amounts of pest management and plant health products to purchase and the timing of use of such products.

We currently rely, and expect to continue to rely, on a limited number of customers for a significant portion of our revenues since we sell to highly concentrated, traditional distributor-type customers. Customers to which 10% or more of our total revenues are attributable for any one of the periods presented consist of the following:

	CUSTOMER A	CUSTOMER B
Three months ended June 30,		
2017	34%	9%
2016	34%	6%
Six months ended June 30,		
2017	27%	10%
2016	31%	6%

While we expect product sales to a limited number of customers to continue to be our primary source of revenues, as we continue to develop our pipeline and introduce new products to the marketplace, we anticipate that our revenue stream will be diversified over a broader product portfolio and customer base. Our cost of product revenues was $4 million and $3.1 million for the three months ended June 30, 2017 and 2016, respectively, and $6.2 million and $5.4 million for the six months ended June 30, 2017 and 2016, respectively. Cost of product revenues consists principally of the cost of inventory, which includes the cost of raw materials, and third party services and allocation of operating expenses of our manufacturing plant related to procuring, processing, formulating, packaging, and shipping our products. Cost of product revenues also include charges recorded for write-downs of inventory, warranty, and, beginning in 2014, under-absorbed costs at our manufacturing plant when the manufacturing plant was placed into service. We have seen our costs of product revenues related to under-absorbed costs of our manufacturing plant decrease as we expand sales and increase production of our existing commercial products Regalia, Grandevo, Venerate, Majestene and Zequanox and during the three months ended June 30, 2017 we had sales of our new product, Haven. Our costs related to write downs of inventory are expected to fluctuate based on increased volume of manufacturing and reliance on third party manufacturing services in the production of finished goods inventory. Our cost of product revenues will fluctuate as a percentage of total revenues primarily due to changes in product mix, based on margins the introduction of new products, and the growth of overall revenues, which also allows for better absorption of overhead costs from the realization of better production efficiencies. We expect to see a gradual increase in gross margin over the life cycle of each of our products as we improve production processes, gain efficiencies, increase product yields, and grow revenues. These increases may be offset by additional charges for inventory write-downs and under-absorbed costs of our manufacturing plant until overall volume in the plant stabilizes at its optimum utilization levels, and/or we experience similar issues related to our third party manufacturing partners. We also expect fluctuation in margins on a quarterly basis due to seasonal product mix, and due to variations in the yield and efficacy of various individual batches of production until volumes get to a level that average out individual variances.

Our research, development and patent expenses have historically comprised a significant portion of our operating expenses. For the three months ended June 30, 2017 and 2016, these costs were $2.9 million and $2.3 million, respectively, and $5.3 million and $4.6 million for the six months ended June 30, 2017 and 2016, respectively. We have made and will continue to make, substantial investments in research and development and we intend to continue to devote significant resources toward improving our processes and formulations of commercial products and the advancement of product candidates that are expected to have the greatest impact on near-term growth potential. Simultaneously, we are seeking collaborations with third parties to develop and commercialize more early stage candidates, which we have elected not to expend significant resources on given our focused strategy.

Selling, general and administrative expenses incurred to establish and build our market presence and business infrastructure have generally comprised the remainder of our operating expenses, amounting to $5.1 million and $4.5 million for the three months ended June 30, 2017 and 2016, respectively, and $10.4 million and $10.0 million for the six months ended June 30, 2017 and 2016, respectively. In connection with our new strategy, we have been building a new sales and marketing organization which provides for increased training and a better ability to educate and support customers and growers as well as transitioning our product development staff to undertake greater responsibility for technical sales support, field trials and demonstrations to promote sales growth. In February 2016, we entered into a settlement agreement with the SEC with respect to the SEC's investigation, which was principally related to the accounting and other matters that were initially identified by us and that led to the financial restatement completed by us on November 10, 2015. Under the terms of the settlement agreement, we paid a $1.75 million civil penalty in March 2016. We had previously recorded an expense for $1.75 million in our consolidated statements of operations for the year ended December 31, 2014 to accrue its estimate of the penalties arising from such enforcement action.

Historically, we have funded our operations from the issuance of shares of common stock, preferred stock, warrants and convertible notes, the issuance of debt and entry into financing arrangements, product sales, payments under strategic collaboration and distribution agreements and government grants, but we have experienced significant losses as we invested heavily in research and development. We expect to incur additional losses related to our investment in the continued development, expansion and marketing of our product portfolio.

Critical Accounting Policies and Estimates

Our condensed consolidated financial statements and the related notes included elsewhere in this Quarterly Report on Form 10-Q are prepared in accordance with GAAP. The preparation of these condensed consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, net revenue, costs and expenses, and any related disclosures. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances. Changes in accounting estimates are reasonably likely to occur from period to period. Accordingly, actual results could differ significantly from the estimates made by our management. We evaluate our estimates and assumptions on an ongoing basis. To the extent that there are material differences between these estimates and our actual results, our future financial statement presentation, financial condition, results of operations and cash flows will be affected.

We believe that the assumptions and estimates associated with revenue recognition, including assumptions and estimates used in determining the timing and amount of revenue to recognize for those transactions accounted for on a "sell-through" method, inventory valuation and share-based compensation have the greatest potential impact on our consolidated financial statements. Therefore, we consider these to be our critical accounting policies and estimates. There have been no material changes to our critical accounting policies as described in our Annual Report filed on Form 10-K, as amended, for the fiscal year ended December 31, 2016.

Key Components of Our Results of Operations

Product Revenues

Product revenues consist of revenues generated primarily from sales to customers, net of rebates and cash discounts. Product revenues constituted 99% and 98% of our total revenues for the three months ended June 30, 2017 and 2016, respectively, and 99% and 98% of our total revenues for the six months ended June 30, 2017 and 2016, respectively.

In some cases, we recognize customers' revenue as title and risk of loss passes, provided all other revenue recognition criteria have been satisfied (the "sell-in" method). For sales to certain customers, the revenue recognition criteria are not satisfied at the time title and risk of loss passes to the customer; specifically, in instances where "inventory protection" arrangements were offered in the past to customers that permitted these customers to return to the Company certain unsold or unused products, or where the risk of future concessions may exist, we consider the arrangement not to be fixed or determinable, and accordingly, revenue is deferred until products are resold by our customers to their customers, or used (the "sell-through" method). The cost of goods sold associated with such deferral are also deferred and classified as deferred cost of product revenues in the consolidated balance sheets. For the three months ended June 30, 2017 and 2016, 52% and 65%, respectively, of product revenues were recognized on a sell-through basis. For the six months ended June 30, 2017 and 2016, 41% and 54%, respectively, of product revenues were recognized on a sell-through basis.

If cash is received from customers related to delivered product that may not represent a true sale, it is classified as customer refund liabilities in the consolidated balance sheets, and the related cost of inventory remains in inventory in the consolidated balance sheets until the product is returned or is resold to customers of the distributor and revenue is recognized.

License Revenues

License revenues generally consist of revenues recognized under our strategic collaboration and distribution agreements for exclusive distribution rights, either for Regalia, for other commercial products, or for our broader pipeline of products, for certain geographic markets or for market segments that we are not addressing directly through our internal sales force. Our strategic collaboration and distribution agreements generally outline overall business plans and include payments we receive at signing and for the achievement of certain testing validation, regulatory progress and commercialization events. As these activities and payments are associated with exclusive rights that we provide over the term of the strategic collaboration and distribution agreements, revenues related to the payments received are deferred and recognized as revenues over the term of the exclusive period of the respective agreements, which we estimate to be between 5 and 17 years based on the terms of the contract and the covered products and regions. For the three months ended June 30, 2017 and 2016, license revenues consisted of 1% and 2%, respectively, and 1% and 2% for the six months ended June 30, 2017 and 2016, respectively. As of June 30, 2017, including agreements with related parties discussed below, we had received an aggregate of $3.9 million in payments under our strategic collaboration and distribution agreements. In addition, there will be an additional $0.3 million in payments due on certain anniversaries of regulatory approval and an additional $1.1 million in payments under these agreements that we could potentially receive if the testing validation, regulatory progress and commercialization events occur.

Product Shipments

We believe that product shipments is a useful measure of our sales that illustrates the value of our product shipment volumes in a given period. As certain of our product revenues are recognized on a “sell-in” basis while others are recognized on a “sell-through” basis, we believe product shipments facilitates a comparison of our operating performance on a consistent basis from period-to-period and provides for a more complete understanding of factors and trends affecting our business. We define product shipments as product revenues, plus related party product revenues related to product shipments, plus, or minus, the incremental amount of deferred revenues accrued during the applicable period from the shipment of products. This calculation specifically excludes changes in deferred revenue related to license revenues and customer deposits.

Cost of Product Revenues and Gross Profit

Cost of product revenues consists principally of the cost of raw materials, including inventory costs and third-party services related to procuring, processing, formulating, packaging and shipping our products. As we have used our Bangor, Michigan manufacturing plant to produce certain of our products, cost of product revenues includes an allocation of operating costs including direct and indirect labor, productions supplies, repairs and maintenance, depreciation, utilities and property taxes. The amount of indirect labor and overhead allocated to finished goods is determined on a basis presuming normal capacity utilization. Operating costs incurred in excess of production allocations, considered idle capacity, are expensed to cost of product revenues in the period incurred rather than added to the cost of the finished goods produced. Cost of product revenues may also include charges due to inventory adjustments and reserves. In addition, costs associated with license revenues have been included in cost of product revenues as they have not been significant. Gross profit is the difference between total revenues and cost of product revenues. Gross margin is gross profit expressed as a percentage of total revenues.

We have entered into in-license technology agreements with respect to the use and commercialization of four of our commercially available product lines, Regalia, Grandevo, Zequanox, and Haven and certain other products under development. Under these licensing arrangements, we typically make royalty payments based on net product revenues, with royalty rates varying by product and ranging between 2% and 5% of net sales, subject in certain cases to aggregate dollar caps. These royalty payments are included in cost of product revenues, but they have historically not been significant. The exclusivity and royalty provisions of these agreements are generally tied to the expiration of underlying patents. The patents for Regalia and Zequanox will expire in 2017 and the in-licensed U.S. patent for Grandevo is expected to expire in 2024. The patents for Haven begin to expire in 2019.

There is, however, a pending in-licensed patent application relating to Grandevo, which could expire later than 2024 if issued. After the termination of these provisions, we may continue to produce and sell these products. While third parties thereafter may develop products using the technology under expired patents, we do not believe that they can produce competitive products without infringing other aspects of our proprietary technology, including issued patents and pending patent applications related to Regalia, Grandevo and Zequanox, and we therefore do not expect the expiration of the patents or the related exclusivity obligations to have a significant adverse financial or operational impact on our business.

We expect to see fluctuation in gross profit over the life cycle of each of our products and gross margins are expected to fluctuate over time based on product sales mix, and as production processes improve and as we gain efficiencies and increase product yields. We expect margins to improve on a product-by-product basis, as shipments expand and manufacturing efficiencies are realized our overall gross margins may vary as we introduce new products, introduce new sales incentives and programs, or have to rely on third-party manufacturing to address our demand. Gross margin has been and will continue to be affected by a variety of factors, including plant utilization, product manufacturing yields, changes in production processes, new product introductions, product mix and average selling prices.

In July 2012, we acquired a manufacturing facility, which we repurposed for manufacturing operations. We began full-scale manufacturing using this facility in 2014. We continue to use third party manufacturers for Venerate and Majestene, Haven and for spray-dried powder formulations of Grandevo and Zequanox. We expect gross margins to improve using this facility as sales volumes are large enough to realize greater operational efficiencies, which could be offset by other factors mentioned above.

Research, Development and Patent Expenses

Research, development and patent expenses include personnel costs, including salaries, wages, benefits and share-based compensation, related to our research, development and patent staff in support of product discovery and development activities. Research, development and patent expenses also include costs incurred for patents, laboratory supplies, field trials and toxicology tests, quality control assessment, consultants and facility and related overhead costs.

Beginning in the fourth quarter of 2014, we reduced our research and development staff and prioritized our pipeline candidates, focusing first on Majestene and Haven, which are now commercially available, and other products that can be in the market in the next few years. We expect research, development and patent expenses to decrease in the near term as we have reduced headcount and will focus our efforts on select pipeline products. We are working to find partners to assist with the development of other pipeline candidates.

Selling, General and Administrative Expenses

Selling, general and administrative expenses consist primarily of personnel costs, including salaries, wages, benefits and share-based compensation, related to our executive, sales, marketing, finance and human resources personnel, as well as professional fees, including legal and accounting fees, and other selling costs incurred related to business development and to building product and brand awareness. We create brand awareness through programs such as speaking at industry events, trade show displays and hosting local-level grower and distributor meetings. In addition, we dedicate significant resources to technical marketing literature, targeted advertising in print and online media, webinars and radio advertising. Costs related to these activities, including travel, are included in selling expenses.

We expect our selling expenses to fluctuate in the near-term, both in absolute dollars and as a percentage of total revenues. For the three and six months ended June 30, 2017, we incurred $0.1 million in litigation-related expenses related to the restatement of our financial statements, net of insurance proceeds. For the three months ended June 30, 2016, we recognized a reduction of $0.2 million in such costs due in part to the receipt of insurance proceeds. For the six months ended June 30, 2016, we recognized expenses of $0.7 million related to such costs.

In February 2016, we entered into a settlement agreement with the SEC with respect to the SEC’s investigation, which was principally related to the accounting and other matters that were initially identified by us in September 2014 and that led to the financial restatement completed by us on November 10, 2015. Under the terms of the settlement agreement, we paid a $1.75 million civil penalty in March 2016. We had previously recorded expenses of $1.75 million in our consolidated statements of operations for the year ended December 31, 2014 for an accrual of our estimate of the penalties arising from such enforcement action.

Interest Expense

We recognize interest expense on notes payable and other debt obligations. In June 2014, we entered into a $10.0 million promissory note with a variable interest rate that varies with the prime rate. Accordingly, our interest expense will increase as the prime rate increases. In August 2015, pursuant to a purchase agreement, we issued and sold to affiliates of Waddell & Reed Financial, Inc. senior secured promissory notes in the aggregate principal amount of $40.0 million with a fixed interest rate and warrants to purchase up to 4.0 million shares of our common stock at an exercise price of $1.91 per share for aggregate consideration of $40.0 million. In November 2016, pursuant to an amendment to the October 2012 and April 2013 Secured Promissory Notes with a combined total of $12.5 million outstanding, the interest rate on these notes decreased from 18% to 14%. This decrease in interest was partially offset by the additional interest associated with the valuation of 125,000 warrants in the amount of $0.2 million. The value of the warrants is treated as a discount to this note and is being amortized to interest expense through the maturity date of these secured notes. In March 2017, we entered into the LSQ Financing which allows us to receive advances of up to $7.0 million against receivables sold to LSQ. In April 2017, we began to draw down the LSQ Financing and as of June 30, 2017, we had an outstanding balance of $2.9 million in secured borrowings.

We have also acquired equipment under capital leases, which results in interest expense over the lease term. Our capital lease obligations were $0.5 million and $0.8 million as of June 30, 2017 and December 31, 2016, respectively.

Interest Income

Interest income consists primarily of interest earned on cash balances. Our interest income will vary each reporting period depending on our average cash balances during the period and market interest rates.

Income Tax Provision

Since our inception, we have been subject to income taxes principally in the United States. We anticipate that as we further expand our sales into foreign countries, we will become subject to taxation based on the foreign statutory rates and our effective tax rate could fluctuate accordingly.

Income taxes are computed using the asset and liability method, under which deferred tax assets and liabilities are determined based on the difference between the financial statement and tax bases of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to affect taxable income. Valuation allowances are established when necessary to reduce deferred tax assets to the amount expected to be realized. As of June 30, 2017, based on the available information, it is more likely than not that our deferred tax assets will not be realized, and accordingly we have taken a full valuation allowance against all of our U.S. deferred tax assets.

Key Components of Our Results of Operations

Results of Operations

The following table sets forth certain statements of operations and other financial and operating data:

	THREE MONTHS ENDED JUNE 30,		SIX MONTHS ENDED JUNE 30,	
	2017	**2016**	**2017**	**2016**
Revenues:				
Product	$ 6,418	$ 4,957	$ 10,514	$ 7,534
License	58	92	116	184
Total revenues	6,476	5,049	10,630	7,718
Cost of product revenues	3,966	3,118	6,245	5,387
Gross profit	2,510	1,931	4,385	2,331
Operating Expenses:				
Research, development and patent	2,853	2,313	5,297	4,635
Selling, general and administrative	5,073	4,512	10,416	10,042
Total operating expenses	7,926	6,825	15,713	14,677
Loss from operations	(5,416)	(4,894)	(11,328)	(12,346)
Other income (expense):				
Interest income	—	10	1	25
Interest expense	(869)	(759)	(1,505)	(1,509)
Interest expense to related parties	(1,085)	(1,083)	(2,159)	(2,166)
Other income (expense), net	(15)	(57)	(23)	(63)
Total other expense, net	(1,969)	(1,889)	(3,686)	(3,713)
Loss before income taxes	(7,385)	(6,783)	(15,014)	(16,059)
Income taxes	—	—	—	—
Net loss	$ (7,385)	$ (6,783)	$ (15,014)	$ (16,059)
Product Shipments	$ 5,672	$ 4,169	$ 12,134	$ 8,055

(1) Product shipments is a supplemental measure of financial performance that is not required by, or presented in accordance with, GAAP. We define product shipments as product revenues, plus the incremental amount of deferred revenues accrued during the applicable period from shipment of products. This calculation specifically excludes changes in deferred revenue related to license revenues and customer deposits, and is intended to approximate the total value of products sold and under contract for sale in a given period. Product shipments, as defined herein, may not be comparable to similarly titled measures used by other companies. Our management uses this non-GAAP financial measure in order to have comparable results to analyze sales performance from quarter to quarter. We have chosen to provide this supplemental information regarding our sales in a given period to investors to facilitate a meaningful evaluation of actual operating results on a comparable basis with historical results, including to track product adoption, and to assist investors in their valuation of the Company.

The following table presents a reconciliation of product revenues, the most directly comparable GAAP financial measure, to product shipments for the periods indicated below (in thousands):

	THREE MONTHS ENDED JUNE 30,		SIX MONTHS ENDED JUNE 30,	
	2017	2016	2017	2016
Product revenues	$ 6,418	$ 4,957	$ 10,514	$ 7,534
Change in deferred product revenue(a)	(746)	(788)	1,620	521
Product shipments	$ 5,672	$ 4,169	$ 12,134	$ 8,055

(a) Change in deferred product revenue is defined as the increase in the amount of deferred product revenues accrued during the applicable period, less prior deferred product revenues recognized during the applicable period, excluding the change in deferred revenue associated with license fees and customer deposits. For the three months ended June 30, 2017 and 2016, deferred license revenues decreased $58,000 and $92,000, respectively, and $116,000 and $184,000 for the six months ended June 30, 2017 and 2016, respectively.

The following table sets forth certain statements of operations data as a percentage of total revenues:

	THREE MONTHS ENDED JUNE 30,		SIX MONTHS ENDED JUNE 30,	
	2017	2016	2017	2016
Revenues:				
Product	99%	98%	99%	98%
License	1	2	1	2
Total revenues	100	100	100	100
Cost of product revenues	61	62	59	70
Gross profit	39	38	41	30
Operating Expenses:				
Research, development and patent	44	46	50	60
Selling, general and administrative	78	89	98	130
Total operating expenses	122	135	148	190
Loss from operations	(83)	(97)	(107)	(160)
Other income (expense):				
Interest income	—	—	—	—
Interest expense	(13)	(15)	(14)	(20)
Interest expense to related parties	(17)	(21)	(20)	(28)
Other income (expense), net	—	(1)	—	(1)
Total other expense, net	(30)	(37)	(34)	(49)
Loss before income taxes	(113)	(134)	(141)	(209)
Income taxes	—	—	—	—
Net loss	(113)%	(134)%	(141)%	(209)%

Comparison of Three Months Ended June 30, 2017 and 2016

Product Revenues

	THREE MONTHS ENDED JUNE 30,	
	2017	2016
	(Dollars in thousands)	
Product revenues	$ 6,418	$ 4,957
% of total revenues	99%	98%

Product revenues increased by $1.5 million, or 29%, primarily as a result of increased product shipments that increased a similar amount. Product revenues increased across all product lines, over the second quarter of 2016 as demand was driven by continued acceptance of our product portfolio.

License Revenues

	THREE MONTHS ENDED JUNE 30,	
	2017	2016
	(Dollars in thousands)	
License revenues	$ 58	$ 92
% of total revenues	1%	2%

License revenues related to certain strategic collaboration and distribution agreements decreased for the second quarter of 2017 as compared to the second quarter of 2016, as some of these agreements became fully amortized to revenue in 2016, and were not offset by new agreements.

Cost of Product Revenues and Gross Profit

	THREE MONTHS ENDED JUNE 30,			
	2017		2016	
	(Dollars in thousands)			
Cost of product revenues	$	3,966	$	3,118
% of total revenues		61%		62%
Gross profit		2,510		1,931
% of total revenues		39%		38%

Cost of product revenues were up $0.8 million, and gross profit increased by $0.6 million. Gross margins were relatively flat. Cost of product revenues as a percentage of revenue declined modestly, as increased sales volume was offset by sales mix. Gross margins were, therefore, up as a result of overall sales volume.

Research, Development and Patent Expenses

	THREE MONTHS ENDED JUNE 30,			
	2017		2016	
	(Dollars in thousands)			
Research, development and patent	$	2,853	$	2,313
% of total revenues		44%		46%

Research, development and patent expenses increased by $0.5 million, or 23%, as we continued to focus our research and development resources on margin improvement, improved formulations of already commercialized products and our focused pipeline of new products. Related to these efforts, we saw an increase in field trials costs of $0.4 million over the second quarter of 2016, as we test our existing and developing product lines on a wider range of crops and markets and field testing of near term pipeline products.

Selling, General and Administrative Expenses

	THREE MONTHS ENDED JUNE 30,			
	2017		2016	
	(Dollars in thousands)			
Selling, general administrative expenses	$	5,073	$	4,512
% of total revenues		78%		89%

Selling, general and administrative expenses increased by $0.6 million or 12%, primarily due to a $0.6 million increases in outside services, the result of outside services coats related to the Company's implementation of an enterprise resource planning (ERP) system, increased marketing expenses related to the purchase of electronic data interchange (EDI) information to gain transparency into grower purchases of our products and other advertising and marketing research costs.

Other Expense, Net

	THREE MONTHS ENDED JUNE 30,			
	2017		2016	
	(Dollars in thousands)			
Interest income	$	—		10
Interest expense		(869)		(759)
Interest expense to related parties		(1,085)		(1,083)
Other income (expense) net		(15)		(57)
	$	(1,969)	$	(1,889)

Interest expense increased by $0.1 million, or 6%, primarily due to a decrease in the interest rate on the October 2012 and April 2013 Secured Promissory Notes as discussed in Note 6 to the condensed consolidated financial statements included in Part I—Item 1— "Financial Information."

Comparison of Six Months Ended June 30, 2017 and 2016

Product Revenues

	SIX MONTHS ENDED JUNE 30,			
	2017		2016	
	(Dollars in thousands)			
Product revenues	$	10,514	$	7,534
% of total revenues		99%		98%

Product revenues increased by $3.0 million, or 40%, primarily as a result of increased product shipments that increased a similar amount. Product revenues increased across all product lines, as compared to the first six months of 2016 as demand was driven by continued acceptance of our product portfolio.

License Revenues

	SIX MONTHS ENDED JUNE 30,			
	2017		2016	
	(Dollars in thousands)			
License revenues	$	116	$	184
% of total revenues		1%		2%

License revenues related to certain strategic collaboration and distribution agreements decreased for the first six months of 2017 as compared to the first six months of 2016, as some of these agreements became fully amortized to revenue in 2016, and were not offset by new agreements.

Cost of Product Revenues and Gross Profit

	SIX MONTHS ENDED JUNE 30,			
	2017		2016	
	(Dollars in thousands)			
Cost of product revenues	$	6,245	$	5,387
% of total revenues		59%		70%
Gross profit		4,385		2,331
% of total revenues		41%		30%

Cost of product revenues and gross profit were up for the first six months of 2017 compared to the first six months of 2016, $0.9 million or 16% and $2.1 million or 88%, respectively. Cost of product revenues increased due to higher sales volumes across all product lines, and improved plant utilization production efficiencies related to higher volumes realized during the first six months of 2017. These volumes and efficiencies, although slightly impacted by sales mix, resulted in significantly improved gross profits.

Research, Development and Patent Expenses

	SIX MONTHS ENDED JUNE 30,			
	2017		2016	
	(Dollars in thousands)			
Research, development and patent	$	5,297	$	4,635
% of total revenues		50%		60%

Research, development and patent expenses increased by $0.7 million, or 14%, as we continued to focus our research and development resources on margin improvement, improved formulations of already commercialized products and our focused pipeline of new products. Cost increase primarily related to increased field trials costs, supplies and chemicals, and conference related activities. These costs are expected to fluctuate in the future.

Selling, General and Administrative Expenses

	SIX MONTHS ENDED JUNE 30,	
	2017	2016
	(Dollars in thousands)	
Selling, general administrative expenses	$ 10,416	$ 10,042
% of total revenues	98%	130%

Selling, general and administrative expenses increased by $0.4 million or 4%, primarily due to an increase in outside services, the result of new ERP system implementation costs, increased marketing consulting costs, and marketing costs associated with advertising data research, including subscribing to an EDI platform to gain additional information about growers' use of our products. The Company also incurred costs due to increased headcount and related costs, which were offset by reductions in costs related to outside legal fees related to our restatement-related investigation and litigation activities in the first six months of 2016.

Other Expense, Net

	SIX MONTHS ENDED JUNE 30,	
	2017	2016
	(Dollars in thousands)	
Interest income	$ 1	$ 25
Interest expense	(1,505)	(1,509)
Interest expense to related parties	(2,159)	(2,166)
Other income (expense) net	(23)	(63)
	$ (3,686)	$ (3,713)

Interest expense decreased by $0.0 million, or less than 1%, primarily due to a decrease in the interest rate on the October 2012 and April 2013 Secured Promissory Notes as documented in Note 6 to the condensed consolidated financial statements included in Part I—Item 1— "Financial Information."

Seasonality and Quarterly Results

The level of seasonality in our business overall is difficult to evaluate as a result of our relatively early stage of development, our relatively limited number of commercialized products, our expansion into new geographical territories, the introduction of new products, the timing of introductions of new formulations and products and our recognition of revenue on both a "sell-in" and "sell-through" basis, depending on the transaction. It is possible that our business may become more seasonal, or experience seasonality in different periods, than anticipated, particularly if we expand into new geographical territories, add or change distributors or distributor programs or introduce new products with different applicable growing seasons, or if a more significant component of our revenue becomes comprised of sales of Zequanox, which has a separate seasonal sales cycle compared to our crop protection products. Notwithstanding any such seasonality, we expect substantial fluctuation in sales year over year and quarter over quarter as a result of a number of variables on which sales of our products are dependent. Weather conditions, natural disasters and other factors affect planting and growing seasons and incidence of pests and plant disease, and accordingly affect decisions by our distributors, direct customers and end users about the types and amounts of pest management and plant health products to purchase and the timing of use of such products. In addition, disruptions that cause delays by growers in harvesting or planting can result in the movement of orders to a future quarter, which would negatively affect the quarter and cause fluctuations in our operating results. For example, late snows and cold temperatures in the Midwestern and Eastern United States in the first and second quarters of 2014 delayed planting and pesticide and plant health applications, and the California drought in 2015 and the Northeast U.S. drought in 2016 affected fungicide sales and cold, wet weather in the Pacific Northwest in 2017. Customers also may purchase large quantities of our products in a particular quarter to store and use over long periods of time or time their purchases to manage their inventories, which may cause significant fluctuations in our operating results for a particular quarter or year, and low commodity prices may discourage growers from purchasing our products in an effort to reduce their costs and increase their margins for a growing season.

Liquidity and Capital Resources

Since our inception, our operations have been financed primarily by net proceeds from public offerings of common stock and private placements of convertible preferred stock, convertible notes and promissory notes, and term loans, as well as proceeds from the sale of our products and payments under strategic collaboration and distribution agreements and government grants.

As of June 30, 2017, our cash and cash equivalents totaled $10.2 million, and we had an additional $3.0 million of restricted cash that we are contractually obligated to maintain in accordance with our debt agreements, which are discussed further below. Unless Five Star Bank extends its waiver of the applicable covenant, or we enter into strategic agreements that include significant cash payments upfront, significantly increase revenues from sales or raise additional capital through the issuance of equity, we will exceed the maximum debt-to-worth requirement under our promissory note to them upon the expiration of the current waiver on October 1, 2018. As of June 30, 2017, we had an accumulated deficit of $249.7 million, and we estimate that we will continue to incur losses, which will further increase our accumulated deficit. Based on this cash on hand and our expectation that it will continue to incur significant operating losses, we do not have the capital to finance operations for the next twelve months. These circumstances raise substantial doubt about our ability to continue as a going concern, which depends on our ability to obtain further waivers of our covenants, enter into strategic agreements that include significant cash payments upfront and/or raise additional capital. There is no assurance that we will be able to obtain waivers of our debt covenants or raise capital, or if we are able to raise capital, that it will be on favorable terms. Adequate funds for these and the other purposes may not be available to us when needed or on acceptable terms, and we may need to raise capital that may not be available on favorable or acceptable terms, if at all. If we cannot raise money when needed, we may have to reduce or slow sales and product development activities, further reduce operating expenses and/or reduce capital investment. We incorporated additional information regarding risks related to our capital and liquidity described in Part I— Item 1A— “Risk Factors”, in our Annual Report filed on Form 10-K for the fiscal year ended December 31, 2016.

Since our inception, we have incurred significant net losses, and we expect to incur additional losses related to the continued development and expansion of our business. Our liquidity may be negatively impacted as a result of slower than expected adoption of our products. We have certain strategic collaboration and distribution agreements under which we receive payments for the achievement of certain testing validation, regulatory progress and commercialization events. As of June 30, 2017, we had received an aggregate of $3.9 million in payments under these agreements. In addition, there will be an additional $0.3 million in payments due on certain anniversaries of regulatory approval and an additional $1.1 million in payments under these agreements that we could potentially receive if the testing validation, regulatory progress and commercialization events occur.
We had the following debt arrangements in place as of June 30, 2017, in each case as discussed below (dollars in thousands):

DESCRIPTION	STATED ANNUAL INTEREST RATE	PRINCIPAL BALANCE (INCLUDING ACCRUED INTEREST)	PAYMENT/MATURITY
Promissory Notes (1)	14.00%	$ 12,595	Monthly(5)/October 2018(6)
Promissory Note (2)	6.00%	9,253	Monthly/June 2036
Promissory Notes (3)	8.00%	41,596	Biannually(7)/August 2020
Secured Borrowing (4)	12.78%	2,870	Varies(8)/March 2018(9)

(1) See “—October 2012 and April 2013 Secured Promissory Notes.”
(2) See “—June 2014 Secured Promissory Note.”
(3) See “—August 2015 Senior Secured Promissory Notes.”
(4) See “—LSQ Financing.”
(5) Monthly payments are interest only until maturity.
(6) In November 2016, the maturity date was extended to October 2018.
(7) Biannual payments are interest only until maturity with principal payments due in increments at three, four and five years from the closing date.
(8) Payable through the lender’s direct collection of certain accounts receivable through March 2018.
(9) This financing terminates in March 2018, but automatically extends if the Company does not provide written notice of termination. The lender can terminate this agreement with 30 days written notice. See the further discussion in “LSQ Financing.”

October 2012 and April 2013 Secured Promissory Notes

On October 2, 2012, we borrowed $7,500,000 pursuant to senior notes ("October 2012 Secured Promissory Notes") with a group of lenders. On April 10, 2013 ("Conversion Date"), we entered into an amendment to increase, by up to $5,000,000, the amount available under the terms of the loan agreement with respect to the October 2012 Secured Promissory Notes. Under this amendment, an additional $4,950,000 was issued in partial consideration for $3,700,000 in cash received and in partial conversion for the cancellation of a $1,250,000 subordinated convertible note (collectively, "April 2013 Secured Promissory Notes"). The total amount borrowed under the amended loan agreement for the October 2012 Secured Promissory Notes and the April 2013 Secured Promissory Notes increased from $7,500,000 to $12,450,000 as of the Conversion Date. The October 2012 and April 2013 Secured Promissory Notes bear interest at 14% at June 30, 2017. This loan is collateralized by substantially all of the Company's assets.

June 2014 Secured Promissory Note

In June 2014, we borrowed $10,000,000 pursuant to a business loan agreement and promissory note ("June 2014 Secured Promissory Note") with Five Star Bank ("Lender") which bears interest at 6.0% as of June 30, 2017. The interest rate is subject to change and is based on the prime rate plus 2.00% per annum. The June 2014 Secured Promissory Note is repayable in monthly payments of $67,058 and adjusted from time-to-time as the interest rate changes, with the final payment due in June 2036. Certain of our deposit accounts and MMM LLC's inventories, chattel paper, accounts, equipment and general intangibles have been pledged as collateral for the promissory note. We are required to maintain a deposit balance with the Lender of $1,560,000, which is recorded as restricted cash included in non-current assets. In addition, until we provide documentation that the proceeds were used for construction of our manufacturing plant, proceeds from the loan will be maintained in a restricted deposit account with the Lender. As of June 30, 2017, we had $1,444,000 remaining in this restricted deposit account, which is recorded as restricted cash included in current assets.

August 2015 Senior Secured Promissory Notes

On August 20, 2015, we entered into a purchase agreement with Ivy Science & Technology Fund, Waddell & Reed Advisors Science & Technology Fund and Ivy Funds VIP Science and Technology, each an affiliate of Waddell & Reed, which is a beneficial owner of more than 5% of our common stock. Pursuant to such purchase agreement, we sold to such affiliates senior secured promissory notes ("August 2015 Senior Secured Promissory Notes") in the aggregate principal amount of $40,000,000. The August 2015 Senior Secured Promissory Notes bear interest at a rate of 8% per annum payable semi-annually on June 30 or December 31 of each year, commencing on December 31, 2015, with $10,000,000 payable three years from the closing, $10,000,000 payable four years from the closing and $20,000,000 payable five years from the closing. On May 31, 2016, we entered into an amendment to the August 2015 Senior Secured Promissory Notes, pursuant to which each such affiliate agreed to delete from the August 2015 Senior Secured Promissory Notes the provisions that had required us to maintain a $15 million minimum cash balance.

The August 2015 Senior Secured Promissory Notes are secured by substantially all of our personal property assets. The agent, acting on behalf of the lenders, shall be entitled to have a first priority lien on our intellectual property assets, pursuant to intercreditor arrangements with certain of our existing lenders.

LSQ Financing

On March 24, 2017, we entered into an Invoice Purchase Agreement (the "LSQ Financing") with LSQ Funding Group, L.C. ("LSQ"), pursuant to which LSQ may elect to purchase up to $7,000,000 of eligible customer invoices from the Company. Our obligations under the LSQ Financing are secured by a lien on substantially all of our personal property; such lien is first priority with respect to our accounts receivable, inventory, and related property, pursuant to an intercreditor agreement, dated March 22, 2017 (the "Three Party Intercreditor Agreement"), with administrative agents for the October 2012 and April 2013 Secured Promissory Notes holders and the August 2015 Senior Secured Promissory Notes holders.

Advances by LSQ may be made at an advance rate of up to 80% of the face value of the receivables being sold. Upon the sale of the receivable, we will not maintain servicing. LSQ may require us to repurchase accounts receivable if (i) the payment is disputed by the account debtor, with the purchaser being under no obligation to determine the bona fides of such dispute, (ii) the account debtor has become insolvent or (iii) upon the effective date of the termination of the LSQ Financing. LSQ will retain its security interest in any accounts repurchased from us.

We also pay to LSQ (i) an invoice purchase fee equal to 1% of the face amount of each purchased invoice, at the time of the purchase, and (ii) a funds usage fee equal to 0.035%, payable monthly in arrears. An aging and collection fee is charged at the time when the purchased invoice is collected, calculated as a percentage of the face amount of such invoice while unpaid (which percentage ranges from 0% to 0.35% depending upon the duration the invoice remains outstanding). The LSQ Financing will be effective for one year with automatic one year renewals thereafter unless terminated by the Company at least 60 and not greater than 90 days from the end of the then-effective term; a termination fee is due upon early termination by the Company if such termination is not requested within such 30-day window. LSQ may terminate this agreement with 30 days written notice at which time the LSQ Financing will be terminated at the earlier of the 30-day period, the end of the current term, or the end of the then renewal term. The events of default under the LSQ Financing include failure to pay amounts due, failure to turn over amounts due to LSQ within a cure period, breach of covenants, falsity of representations, and certain insolvency events. We incurred $215,000 in financing-related costs as part of the LSQ Financing that were recorded as a debt discount and amortized to interest expenses over the initial one-year term. The unamortized portion of these financing costs is $161,000 as of June 30, 2017.

In April 2017, we began receiving advances under the LSQ Financing. There was a $2.9 million in outstanding balance under the LSQ Financing as of June 30, 2017.

Upon sale of the receivable, we may elect to set up a reserve where upon the cash for the sale remains with the third-party and the Company can draw on the available amount on the reserve account at any time. Since April 2017, there were times when we elected to utilize the reserve account, but there were no amounts outstanding under the reserve as of June 30, 2017. As of June 30, 2017, we had $4,844,000 included in accounts receivable that were transferred under this arrangement and had $0 in excess funds available on the reserve account.

Common Stock Offering

In April 2017, we completed a public offering of 6.6 million registered common shares for estimated net proceeds totaling $8.2 million, as discussed in Note 1 to the condensed consolidated financial statements included in Part I—Item 1— “Financial Information.”

The following table sets forth a summary of our cash flows for the periods indicated (in thousands):

	SIX MONTHS ENDED JUNE 30,	
	2017	2016
	(Unaudited)	
Net cash used in operating activities	$ (9,831)	$ (13,539)
Net cash used in investing activities	(160)	(93)
Net cash provided by financing activities	10,624	14,953
Net decrease in cash and cash equivalents	$ 633	$ 1,321

Cash Flows from Operating Activities

Net cash used in operating activities of $9.8 million during the six months ended June 30, 2017 primarily resulted from our net loss of $15.0 million which was partially offset by $2.3 million in cash provided by operating assets and liabilities, certain non-cash charges consisting of share-based compensation of $1.2 million, depreciation and amortization of $1.0 million, and $0.7 million of non-cash interest expense.

Net cash used in operating activities of $13.5 million during the six months ended June 30, 2016 primarily resulted from our net loss of $16.1 million, an increase in accounts receivable of $2.2 million, a decrease in accrued and other liabilities of $1.4 million, an increase in deferred cost of product revenues of $0.4 million, and a decrease in deferred revenue from related party of $0.2 million. These decreases were partially offset by increases in cash flows from share-based compensation of $1.3 million, depreciation and amortization of $1.2 million, $0.7 million of non-cash interest expense, an increase in deferred revenues of $1.4 million, a decrease in inventory of $1.1 million, an increase in accrued interest due to related parties of $0.4 million, a decrease in prepaid and other assets of $0.4 million, and a $0.2 million increase in accounts payable.

Cash Flows from Investing Activities

Net cash used in investing activities were $0.2 million during the six months ended June 30, 2017 resulted from purchases of property, plant and equipment to support our operations.

Net cash used in investing activities was less than $0.1 million during the six months ended June 30, 2016 that primarily resulted from purchases for the purchase of property, plant and equipment to support our operations.

Cash Flows from Financing Activities

Net cash provided by financing activities of $10.6 million during the six months ended June 30, 2017 consisted primarily of $8.2 million in net proceeds from a sale of common stock, net proceeds from a secured borrowing of $2.9 million, which were reduced by payments under capital leases and debt obligations, exclusive of the secured borrowings, of $0.5 million.

Net cash provided by financing activities of $15.0 million during the six months ended June 30, 2016 consisted primarily of the reclassification of $15.4 million in restricted cash to cash and equivalents. See Note 6 and 9 to the condensed consolidated financial statements included in Part I—Item 1—"Financial Information" for further discussion. This was partially offset by cash used in financing activities of as a result of payments under capital leases of $0.3 million and payments under our debt of $0.1 million.

Contractual Obligations

The following is a summary of our contractual obligations as of June 30, 2017 (in thousands):

	TOTAL	2017	2018-2019	2020-2021	2022 AND BEYOND
			(In thousands)		
Operating lease obligations	$ 2,037	$ 473	$ 1,564	$ —	$ —
Debt and capital leases	65,028	3,488	33,017	20,639	7,884
Interest payments relating to debt and capital leases	17,832	4,398	7,399	2,030	4,005
Total	$ 84,897	$ 8,359	$ 41,980	$ 22,669	$ 11,889

Operating leases consist of contractual obligations from agreements for non-cancelable office space and leases used to finance the acquisition of equipment. Debt and capital equipment lease payments and the interest payments relating thereto include promissory notes and capital lease obligations in accordance with the payment terms under the agreements.

In September 2013 and then amended in April 2014, we entered into a lease agreement for approximately 27,300 square feet of office and laboratory space located in Davis, California. The initial term of the lease is for a period of 60 months and commenced in August 2014. The monthly base rent is $44,000 for the first 12 months with a 3% increase each year thereafter. Concurrent with this amendment, in April 2014, we entered into a lease agreement with an affiliate of the landlord to lease approximately 17,400 square feet of office and laboratory space in the same building complex in Davis, California. The initial term of the lease is for a period of 60 months and commenced in August 2014. The monthly base rent is $28,000 with a 3% increase each year thereafter.

In January 2016, we entered into an agreement with a sublessee to sublease approximately 3,800 square feet of vacant office space in the aforementioned building complex pursuant to the terms of our lease agreement. The initial term of the sublease is for a period of approximately 43 months and commenced on February 1, 2016. The monthly base rent is approximately $5,000 per month for the first 12 months with increases of approximately 5% each year thereafter.

Since June 30, 2017, we have not added any additional leases that would qualify as operating leases.

On November 11, 2016, we entered into the Amendment, which decreased the interest rate under the October 2012 and April 2013 Secured Promissory Notes to 14% effective November 1, 2016 and extended the maturity date by one year to October 2, 2018, resulting in a decrease in the total contractual obligations due in 2017 of $12.5 million and an increase in the total contractual obligations due in 2018 of $12.5 million.

Inflation

We believe that inflation has not had a material impact on our results of operations for the three months ended June 30, 2017 and 2016.

Off-Balance Sheet Arrangements

We have not been involved in any material off-balance sheet arrangements.

Recently Issued Accounting Pronouncements

See Note 2 to the condensed consolidated financial statements included in this Quarterly Report on Form 10-Q in Part I—Item 1— "Financial Information."

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We currently have minimal exposure to the effect of interest rate changes, foreign currency fluctuations and changes in commodity prices. We are exposed to changes in the general economic conditions in the countries where we conduct business, which currently is substantially all in the United States. Our current investment strategy is to invest in financial instruments that are highly liquid, readily convertible into cash and which mature within six months from the date of purchase. To date, we have not used derivative financial instruments to manage any of our market risks or entered into transactions using derivative financial instruments for trading purposes.

We do not believe our cash equivalents have significant risk of default or illiquidity. While we believe our cash equivalents do not contain excessive risk, we cannot provide absolute assurance that in the future our investments will not be subject to adverse changes in market value.

Interest Rate Risk

We had cash and cash equivalents of $10.2 million as of June 30, 2017, which was held for working capital purposes. We do not enter into investments for trading or speculative purposes. We entered into a promissory note in June 2014, which bears interest at the prime rate plus 2%. A change in market interest rates of 1% would have an impact of approximately $0.1 million on our future annual interest expense. All of our other debt is at fixed interest rates and thus a change in market interest rates would not have an impact on interest expense.

Foreign Currency Risk

Revenue and expenses have been primarily denominated in U.S. dollars and foreign currency fluctuations have not had a significant impact on our historical results of operations. In addition, our strategic collaboration and distribution agreements for current products provide for payments in U.S. dollars. As we market new products internationally, our product revenues and expenses may be in currencies other than U.S. dollars, and accordingly, foreign currency fluctuations may have a greater impact on our financial position and operating results.

Commodity Risk

Our exposure to market risk for changes in commodity prices currently is minimal. As our commercial operations grow, our exposure will relate mostly to the demand side as our end users are exposed to fluctuations in prices of agricultural commodities.

ITEM 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Disclosure controls and procedures are controls and other procedures that are designed to ensure that information required to be disclosed in our reports filed or submitted under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed in our reports filed under the Exchange Act is accumulated and communicated to management, including our principal executive officer and our principal financial officer, as appropriate, to allow timely decisions regarding required disclosure. As of the end of the period covered by this report, the we carried out an evaluation under the supervision and with the participation of our management, including our Chief Executive Officer ("CEO") and our Chief Financial Officer ("CFO"), of the effectiveness of the design and operation of our disclosure controls and procedures in ensuring that material information required to be disclosed in our reports filed or submitted under the Exchange Act has been made known to them in a timely fashion. Based on this evaluation, the CEO and CFO each concluded that our disclosure controls and procedures were effective as of June 30, 2017.

During the fourth quarter of fiscal 2016, we began the implementation of an ERP system. During the second quarter of fiscal 2017, we transitioned to our ERP system for manufacturing operations for material requirements planning, general ledger, procurement, payment, billings and cash receipts functions. We have accordingly, modified our existing internal controls infrastructure, as well as added other processes and internal controls, to adapt to our ERP system. We believe that the ERP system will enhance our internal control over financial reporting while providing us with the ability to scale our business. We believe we have taken the necessary steps to monitor and maintain appropriate internal control over financial reporting during the second quarter of fiscal 2017, and we will continue to evaluate the operating effectiveness of related key controls during subsequent periods.

Changes in Internal Control

There were no changes in our internal control over financial reporting identified in management's evaluation pursuant to Rules 13a-15(d) or 15d-15(d) of the Exchange Act during the period covered by this Quarterly Report that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Limitations on Effectiveness of Controls and Procedures

In designing and evaluating the disclosure controls and procedures, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable, not absolute, assurance of achieving the desired control objectives. Because of the inherent limitations in internal control over financial reporting, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within the Company have been detected. These inherent limitations include the realities that judgments in decision making can be faulty and that breakdowns can occur because of a simple error or mistake. Controls can also be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of the controls. The design of any system of controls is based in part on certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Over time, controls may become inadequate because of changes in conditions or deterioration in the degree of compliance with policies or procedures. In addition, the design of disclosure controls and procedures must reflect the fact that there are resource constraints and that management is required to apply judgment in evaluating the benefits of possible controls and procedures relative to their costs. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

PART II. OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

Note 8 to the condensed consolidated financial statements included in this Quarterly Report on Form 10-Q in Part I, Item 1, “Financial Information” describes certain legal proceedings to which we are subject.

ITEM 1A. RISK FACTORS

Other than as described below, we have not identified any material changes to the risk factors previously disclosed in Part I—Item 1A—“Risk Factors” in our Annual Report filed on Form 10-K, as amended, for the fiscal year ended December 31, 2016. Our business, financial condition and operating results can be affected by a number of factors, whether currently known or unknown, including but not limited to those described below or in the Annual Report, any one or more of which could, directly or indirectly, cause our actual financial condition and operating results to vary materially from past, or from anticipated future, financial condition and operating results. Any of these factors, in whole or in part, could materially and adversely affect our business, financial condition, operating results and stock price. You should carefully consider the risks and uncertainties described below, together with all of the other information in this Quarterly Report on Form 10-Q, including the section titled “Part I—Item 2—“Management’s Discussion and Analysis of Financial Condition and Results of Operations” and the condensed consolidated financial statements and related notes.

There is uncertainty about our ability to continue as a going concern.

Our consolidated financial statements have been prepared on a going concern basis, which contemplates the realization of assets and the satisfaction of liabilities in the normal course of business. However, our cash and cash equivalents were $10.2 million at June 30, 2017, compared with $9.6 million at December 31, 2016. Based on this cash on hand and our expectation to continue to incur significant operating losses, we do not have the capital to finance operations for the next twelve months.

Management believes that we have access to capital resources through increased possible public or private equity offerings, debt financings, strategic collaborations involving significant up-front cash payments or other means. In addition, we continue to explore opportunities to strategically monetize our product pipeline, through potential distributor arrangements and licensing transactions, although there can be no assurance that we will be successful with such plans. We have historically been able to raise capital through equity offerings and debt financings, although no assurance can be provided that we will continue to be successful in the future. Although management believes that significant on-going operating expenditures will be necessary to successfully implement our present business plan, if we are unable to raise sufficient capital, we may be forced to implement significant cost cutting measures and refocus our business as early as the second half of 2017.

In addition, although under a promissory note with Five Star Bank our lender has waived a requirement to remain below a maximum debt-to-worth ratio under this agreement through October 1, 2018, we expect that immediately after this waiver has expired, if we do not arrange an extension of the current waiver, we will be in violation of this covenant as well. Breach of covenants included in our debt agreements, which could result in the lenders demanding payment of the unpaid principal and interest balances, would have a material adverse effect upon our business and would likely require us to seek to renegotiate these debt arrangements with the lenders. If such negotiations are unsuccessful, we may be required to seek protection from creditors through bankruptcy proceedings.

These circumstances raise substantial doubt about our ability to continue as a going concern, which depends on our ability to obtain further waivers of our covenants, or raise additional capital and increase revenues. Our consolidated financial statements do not include any adjustments that might be necessary should we be unable to continue as a going concern. If we cannot continue as a viable entity, our shareholders may lose some or all of their investment in us.

Our products are early in their life cycle with limited sales history and we have incurred significant losses to date and anticipate continuing to incur losses in the future, and we may not achieve or maintain profitability.

We are an early stage company, and our commercialized products are early in their life cycle with limited sales history. We have incurred operating losses since our inception in June 2006, and we expect to continue to incur operating losses for the foreseeable future. As of June 30, 2017 and December 31, 2016, we had an accumulated deficit of $249.7 million and $234.6 million, respectively. For the three months ended June 30, 2017 and 2016, we had a net loss attributable to common stockholders of $7.4 million, $6.8 million, respectively. For the six months ended June 30, 2017 and 2016, we had a net loss attributable to common stockholders of $15.0 million, $16.1 million, respectively. As a result, we will need to generate significant revenues to achieve and maintain profitability, and we may not be able to achieve profitability in the near future or at all, which may depress our stock price.

Through June 30, 2017, we have derived substantially all of our revenues from sales of Regalia, Grandevo and Venerate, Majestene and Haven. In addition, we have derived revenues from strategic collaboration and development agreements for the achievement of testing validation, regulatory progress and commercialization events, and from sales of other products. Accordingly, there is only a limited basis upon which to evaluate our business and prospects. Our future success depends, in part, on our ability to market and sell other products, as well as our ability to increase sales of Regalia, Venerate, Grandevo, Majestene and Haven and to introduce new products such as MBI-110,Stargus and Amplitude biofungicides, MBI-601, Ennoble biofumigant and MBI-014 bioherbicide. An investor in our stock should consider the challenges, expenses and difficulties we will face as a company seeking to develop and manufacture new types of products in a relatively established market. We expect to derive future revenues primarily from sales of Regalia, Grandevo, Zequanox, Venerate, Majestene and other products, but we cannot guarantee the magnitude of such sales, if any. We expect to continue to devote substantial resources to expand our research and development activities, further increase manufacturing capabilities and expand our sales and marketing activities for the further commercialization of Regalia, Grandevo, Zequanox, Venerate and Majestene, Haven, and introduce products such as Stargus/Amplitude, Ennoble and MBI-014. We expect to incur additional losses for the foreseeable future, including at least the next several years, and may never become profitable.

There is uncertainty about our how the implementation of the new revenue recognition standard impact our financial statements.

In January 2018, as discussed in Note 2 to the condensed consolidated financial statements included in Part I—Item 1— “Financial Information”, the Company will be required to recognize revenue in accordance with the new revenue recognition standard, Accounting Standards Update No. 2014-09, Revenue from Contracts with Customers (Topic 606) (“ASU 2014-09”). We are currently evaluating the possible impact of this new standard and how it will impact our financial statements. The new standard could have a material impact on the timing of how and when we recognize revenue, cost of goods sold, other expenses, and certain balance sheet accounts such as deferred cost of product revenues, deferred revenue, and retained earnings. In addition, depending on how we implement the new standard, certain of our deferred revenue balances at the end of December 31, 2017 under the new standard, may never be recognized in future years’ revenue. Depending upon the methodology used, full retrospective or modified retrospective, a significant component of deferred revenue may either be recast into historical revenues or recast as prior period’s retained earnings, respectively.

We expect to require additional financing in the future to meet our business requirements and to service our debt. Such capital raising may be costly, difficult or not possible to obtain and, if obtained, would significantly dilute current stockholders’ equity interests, and we may be unable to repay our secured indebtedness.

As of June 30, 2017, we had $2.9 million of debt pursuant to the LSQ Financing. In our August 2015 private placement transaction, we issued senior secured promissory notes in the initial aggregate principal amount of $40.0 million, which accrue interest at a rate of 8% per annum, with $10.0 million payable three years from the closing, $10.0 million payable four years from the closing and $20.0 million payable five years from the closing. In June 2014, we borrowed $10.0 million pursuant to a promissory note with a bank, which accrues interest at a variable interest rate, 5.25% per annum as of December 31, 2015, and which is repayable in monthly payments through June 2036. We also completed private placements in October 2012 and April 2013 of promissory notes in the aggregate principal amount of $12.5 million, which, following their amendment in November 2016, now accrue interest at 14% through maturity in October 2018. The debt agreements with respect to these transactions contain various financial and other covenants, as discussed below, and our obligations under the loan agreements are secured by all of our real and personal property assets and general intangibles.

As we expect to continue to incur significant losses until we are able to significantly increase our revenue, we expect to need significant additional financing to meet the financial covenants or pay the principal and interest under our debt agreements, as well as to maintain and expand our business. We may seek additional funds from public or private equity offerings, debt financings, strategic collaborations involving up-front cash payments or other means. Additional capital may not be available on terms acceptable to us, or at all. Any additional equity financing would be significantly dilutive to stockholders or, in some cases, require us to seek shareholder approval for the financing, and debt financing, if available, may include restrictive covenants and bear high rates of interest. In addition, our existing loan agreements contain certain restrictive covenants that either limit our ability to, or require a mandatory prepayment if we incur additional indebtedness and liens and enter into various specified transactions. We therefore may not be able to engage in any of the foregoing transactions unless we obtain the consent of our lenders or prepay the outstanding amounts under the debt agreements, which could require us to pay additional prepayment penalties. In addition, we may incur substantial costs in pursuing future capital financing, including investment banking fees, legal fees, accounting fees, securities law compliance fees, printing and distribution expenses and other costs. We also may be required to recognize non-cash expenses in connection with certain securities we issue, such as warrants, which may adversely impact our financial results.

Certain of our debt agreements also contain financial covenants, including maintaining minimum current, debt-to-worth and loan-to-value ratios and provisions providing for an event of default if there is a material adverse change in our financial condition or if we are in default under certain of our other agreements. While we are not currently in default under any of these agreements, and none of our lenders have previously declared an event of default on our indebtedness, prior to our recent receipt of waivers from our lenders, we had not been in compliance with certain of these covenants. Further, we expect that immediately after the waiver under our promissory note with Five Star Bank has expired on October 1, 2018, we will be in violation of the note's requirement to remain below a maximum debt-to-worth ratio. Breach of covenants included in our debt agreements, which could result in the lenders demanding payment of the unpaid principal and interest balances. If we fail to pay any principal or interest under our indebtedness when due, or are otherwise in violation of certain covenants under our debt agreements, this may result in the acceleration of our indebtedness, which would have a material adverse effect upon our business and would likely require us to seek to renegotiate these debt arrangements with the lenders, as we may not have sufficient funds to repay that indebtedness.

If we cannot raise more money when needed, or are unable to use our future working capital, borrowings or equity financing to repay or refinance the amounts outstanding under our debt agreements or to renegotiate our debt arrangements with lenders, we may have to reduce our capital expenditures, scale-back our development of new products, reduce our workforce or license to others products that we otherwise would seek to commercialize ourselves. Any of these eventualities would likely have a material adverse impact on our value and the value of our equity. Further, we may not be able to continue operating if we do not raise new capital or generate sufficient revenue from operations needed to stay in business, and we may be required to seek protection from creditors through bankruptcy proceedings. See Part I—Item 2— "Management's Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources" above.

Unforeseen problems with the implementation and maintenance of our information systems could have an adverse effect on our operations and if internal controls are not designed and operated effectively our internal control over financial reporting could be ineffective.

Early in fourth quarter of 2016, we began the process of implementing an enterprise resource planning ("ERP") system. During the second quarter of fiscal 2017, we transitioned to our ERP system for manufacturing operations for material requirements planning, general ledger, procurement, payment, billings and cash receipts functions. The cost of implementing the ERP system is reflected in our financial statements. As we add functionality and increase the use of the ERP throughout the Company, we will incur additional costs and problems could arise that we have not foreseen, including interruptions in service, loss of data, or reduced functionality. Such problems could adversely impact our ability to provide quotes, take customer orders, and otherwise run our business in a timely manner. In addition, if our new systems fail to provide accurate and increased visibility into pricing and cost structures, it may be difficult to improve or maximize our profit margins. As such, our results of operations and cash flows could be adversely affected.

In addition, the ERP system we implemented is new to our organization. We do not have experience with implementing and maintaining controls over this ERP system. While we believe we have designed the appropriate controls around this ERP system, if we have not designed controls within or around these systems that are effective at preventing and detecting unreliable data, or if we are unable to design or operate controls within or around these systems to provide effective control around program changes and access to the systems, we may be at risk for future material weaknesses. The existence of a material weakness could result in errors in our financial statements that could result in a restatement of financial statements, which could cause us to fail to meet our reporting obligations, lead to a loss of investor confidence and have a negative impact on the trading price of our common stock.

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

Effective June 6, 2017, the Company issued MZHCI, LLC a warrant to purchase up to 80,000 shares of the Company's common stock at an exercise price of $1.10 per share. The warrant expires on June 6, 2027. The Company intends to use the proceeds from any exercise of the warrant for general corporate purposes.

ITEM 6. EXHIBITS

See the Exhibit Index immediately following the signature page of this Quarterly Report on Form 10-Q, which is incorporated by reference herein.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Davis, State of California, on August 14, 2017.

MARRONE BIO INNOVATIONS, INC.

/s/ Pamela G. Marrone

Pamela G. Marrone
President and Chief Executive Officer

INDEX TO EXHIBITS

EXHIBIT NUMBER	EXHIBIT DESCRIPTION
4.1	Warrant to Purchase Common Stock issued to MZHCI, LLC, dated June 6, 2017
31.1	Certification of Principal Executive Officer Required Under Rule 13a-14(a) and 15d-14(a) of the Securities Exchange Act of 1934, as amended.
31.2	Certification of Principal Financial Officer Required Under Rule 13a-14(a) and 15d-14(a) of the Securities Exchange Act of 1934, as amended.
32.1	Certification of Principal Executive Officer and Principal Financial Officer Required Under Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended, and 18 U.S.C. §1350
101	Interactive Data Files Pursuant to Rule 405 of Regulation S-T: (i) Condensed Consolidated Balance Sheets as of June 30, 2016 and December 31, 2016, (ii) Condensed Consolidated Statements of Operations for the Three and Six Months ended June 30, 2017 and 2016, (iii) Condensed Consolidated Statements of Comprehensive Loss for the Three and Six Months ended June 30, 2017 and 2016, (iv) Condensed Consolidated Statements of Cash Flows for the Six Months ended June 30, 2017 and 2016 and (v) Notes to Condensed Consolidated Financial Statements

Exhibit 4.1

THE SECURITIES REPRESENTED HEREBY (AND THE SECURITIES ISSUABLE UPON THE EXERCISE HEREOF) HAVE BEEN ISSUED PURSUANT TO AN EXEMPTION FROM THE REGISTRATION REQUIREMENTS OF THE UNITED STATES SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"). THE HOLDER HEREOF, BY PURCHASING SUCH SECURITIES, AGREES FOR THE BENEFIT OF THE COMPANY THAT SUCH SECURITIES MAY NOT BE OFFERED, SOLD, PLEDGED OR OTHERWISE TRANSFERRED UNLESS THE SECURITIES ARE REGISTERED UNDER THE SECURITIES ACT OR AN EXEMPTION FROM THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT IS AVAILABLE. IN ADDITION, HEDGING TRANSACTIONS INVOLVING SUCH SECURITIES MAY NOT BE CONDUCTED UNLESS IN COMPLIANCE WITH THE SECURITIES ACT.

Effective Date: June6, 2017 Void After: June 6, 2027

MARRONE BIO INNOVATIONS, INC.

WARRANT TO PURCHASE COMMON STOCK

Marrone Bio Innovations, Inc., a Delaware corporation (the "**Company**"), for value received on June 6, 2017 (the "**Effective Date**"), hereby issues to MZHCI, LLC (the "**Holder**") this Warrant (the "**Warrant**") to purchase up to 80,000 shares of the Company's Common Stock (as defined below) at the Exercise Price (as defined below) on or before June 6, 2027 (the "**Expiration Date**"), all subject to the following terms and conditions. This Warrant shall be exercisable, in whole or in part, at any time from time to time, as follows: the shares shall vest in six equal tranches on the 6th day of each month following the issuance of this Warrant, subject to the continued effectiveness of the investor relations consulting agreement dated June 6, 2017 by and between the Holder and the Company. The Warrant Shares (as defined below) issued upon exercise of this Warrant shall be subject to the provisions of the Company's certificate of incorporation, as in effect from time to time. This Warrant, together with any other Warrants issued upon the transfer or exchange of all or any part of such Warrant or Warrants, are collectively referred to as the "**Warrants**", and any Holder, together with any other holder of Warrants, are collectively referred to as the "**Holders**".

As used in this Warrant:

(i) "**Affiliate**" means any Person that, directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with, a Person, as such terms are used and construed in Rule 144 promulgated under the Securities Act of 1933, as amended (the "**Securities Act**");

(ii) "**Business Day**" means any day other than Saturday, Sunday or any other day on which commercial banks in the City of New York, New York, are authorized or required by law or executive order to close;

(iii) "**Common Stock**" means (i) the Common Stock, par value $0.00001 per share, of the Company, and (ii) any share capital into which such Common Stock shall have been changed or any share capital resulting from a reclassification of such Common Stock;

(iv) "**Exercise Price**" means $1.10 per whole share of Common Stock, subject to adjustment as provided herein;

(v) "**Person**" means an individual, a limited liability company, a partnership, a joint venture, a corporation, a trust, an unincorporated organization, any other entity and a government or any department or agency thereof;

(vi) "**Trading Day**" means any day on which the Common Stock is traded on the primary national or regional stock exchange on which the Common Stock is listed, or if not so listed, the OTC Bulletin Board, if quoted thereon, is open for the transaction of business, provided that "Trading Day" shall not include any day on which the Common Stock is scheduled to trade on such exchange or market for less than 4.5 hours or any day that the Common Stock is suspended from trading during the final hour of trading on such exchange or market (or if such exchange or market does not designate in advance the closing time of trading on such exchange or market, then during the hour ending at 4:00:00 p.m., New York City time); and

(vii) **Warrant Shares**" means the shares of Common Stock issuable upon exercise of the Warrant, including any securities issued or issuable with respect thereto or into which or for which such shares may be exchanged, or converted, pursuant to any stock dividend, stock split, stock combination, recapitalization, reclassification, reorganization or other similar event.

1. DURATION AND EXERCISE OF WARRANT

(a) <u>Exercise Period</u>. Subject to the terms of this Warrant, including the vesting schedule set forth herein, the Holder may exercise this Warrant at any time and from time to time, in whole or in part, on any Business Day on or before 5:00 P.M., Eastern Time, on the Expiration Date, at which time this Warrant shall become void and of no value, and all rights hereunder shall thereupon cease.

(b) <u>Exercise Procedures</u>.

(i) While this Warrant remains outstanding and exercisable in accordance with Section 1(a), the Holder may exercise this Warrant, in whole or in part, as follows:

(A) By presentation and surrender of this Warrant to the Company at its principal offices or at such other office or agency as the Company may specify in writing to the Holder, with a duly executed copy of the Notice of Exercise attached as **Exhibit A**; and

(B) Payment of the then-applicable Exercise Price per share multiplied by the number of Warrant Shares being purchased upon exercise of the Warrant (such amount, the “**Aggregate Exercise Price**”) made in the form of cash, or by certified check, bank draft or money order payable in lawful money of the United States of America or in the form of a Cashless Exercise (as defined below) to the extent permitted in Section 1(b)(ii) below.

(ii) In addition, while this Warrant remains outstanding and exercisable in accordance with Section 1(a), the Holder may also, in its sole discretion, exercise (so long as at the time of exercise, the fair market value (as defined below) exceeds the then-current Exercise Price) all or any part of the Warrant in a “cashless” or “net-issue” exercise (a “**Cashless Exercise**”) by delivering to the Company (1) the Notice of Exercise and (2) the original Warrant, pursuant to which the Holder shall surrender the right to receive upon exercise of this Warrant, a number of Warrant Shares having a fair market value (as determined below) equal to the Aggregate Exercise Price, in which case, the number of Warrant Shares to be issued to the Holder upon such exercise shall be calculated using the following formula:

$$X = \frac{Y * (A - B)}{A}$$

with: X = the number of Warrant Shares to be issued to the Holder

Y =the number of Warrant Shares with respect to which the Warrant is being exercised

A =the fair market value per share of Common Stock on the date of exercise of the Warrant

B = the then-current Exercise Price of the Warrant

Solely for the purposes of this Section 1(b)(ii), “fair market value” per share of Common Stock shall mean (A) if the Common Stock is publicly traded, the average of the closing sales prices, as quoted on the primary national or regional stock exchange on which the Common Stock is listed, or, if not listed, the OTC Bulletin Board if quoted thereon, on the twenty (20) Trading Days immediately preceding the date on which the Notice of Exercise is deemed to have been sent to the Company, or (B) if the Common Stock is not publicly traded as set forth in clause (A) of this sentence, as reasonably and in good faith determined by the Board of Directors of the Company as of the date which the Notice of Exercise is deemed to have been sent to the Company (subject to Section 15).

For purposes of Rule 144(d) promulgated under the Securities Act, as in effect on the date hereof, it is intended that the Warrant Shares issued in a Cashless Exercise shall be deemed to have been acquired by the Holder, and the holding period for the Warrant Shares shall be deemed to have commenced, on the date this Warrant was originally issued.

(iii) Upon the exercise of this Warrant in compliance with the provisions of this Section 1(b), the Company shall promptly issue and cause to be registered with the Company’s transfer agent (the “**Transfer Agent**”) a book entry position for the total number of Warrant Shares for which this Warrant is being exercised. Each exercise of this Warrant shall be effective immediately prior to the close of business on the date (the "**Date of Exercise**") on which the conditions set forth in Section 1(b) have been satisfied. On or before the second Business Day following the date on which the Company has received each of the Notice of Exercise and the Aggregate Exercise Price (or notice of a Cashless Exercise in accordance with Section 1(b)(ii)) (the "**Exercise Delivery Documents**"), the Company shall transmit an acknowledgment of receipt of the Exercise Delivery Documents to the Transfer Agent. Upon delivery of the Exercise Delivery Documents, the Holder shall be deemed for all corporate purposes to have become the holder of record of the Warrant Shares with respect to which this Warrant has been exercised. If the number of Warrant Shares represented by this Warrant is greater than the actual number of Warrant Shares being acquired upon such an exercise, then the Company shall as soon as practicable and in no event later than five (5) Business Days after any exercise, and at its own expense, issue a new Warrant of like tenor representing the right to purchase the number of Warrant Shares purchasable immediately prior to such exercise under this Warrant, less the number of Warrant Shares with respect to which this Warrant is exercised.

(c) Partial Exercise. Subject to the terms of this Warrant, including the vesting schedule set forth herein, this Warrant shall be exercisable, either in its entirety or, from time to time, for only part of the number of Warrant Shares referenced by this Warrant. If this Warrant is exercised in part, the Company shall issue, at its expense, a new Warrant, in substantially the form of this Warrant, referencing such reduced number of Warrant Shares that remain subject to this Warrant.

(d) Disputes. In the case of a dispute as to the determination of the Exercise Price or the arithmetic calculation of the Warrant Shares, the Company shall promptly issue to the Holder the number of Warrant Shares that are not disputed and resolve such dispute in accordance with Section 16.

2. ISSUANCE OF WARRANT SHARES

(a) The Company covenants that all Warrant Shares will, upon issuance in accordance with the terms of this Warrant, be (i) duly authorized, fully paid and non-assessable, and (ii) free from all liens, charges and security interests, with the exception of claims arising through the acts or omissions of the Holder and except as arising from applicable federal and state securities laws.

(b) The Company shall register this Warrant upon records to be maintained by the Company for that purpose in the name of the record holder of such Warrant from time to time. The Company may deem and treat the registered Holder of this Warrant as the absolute owner thereof for the purpose of any exercise thereof, any distribution to the Holder thereof and for all other purposes.

(c) The Company will not, by amendment of its certificate of incorporation or bylaws or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms to be observed or performed hereunder by the Company, but will at all times in good faith assist in the carrying out of all the provisions of this Warrant and in the taking of all action necessary or appropriate in order to protect the rights of the Holder to exercise this Warrant, or against impairment of such rights.

3. ADJUSTMENTS OF EXERCISE PRICE, NUMBER AND TYPE OF WARRANT SHARES; FUNDAMENTAL TRANSACTION

(a) The Exercise Price and the number of shares purchasable upon the exercise of this Warrant shall be subject to adjustment from time to time upon the occurrence of certain events described in this Section 3(a); provided, that notwithstanding the provisions of this Section 3(a), the Company shall not be required to make any adjustment if and to the extent that such adjustment would require the Company to issue a number of shares of Common Stock in excess of its authorized but unissued shares of Common Stock, less all shares of Common Stock that have been reserved for issuance upon the conversion of all outstanding securities convertible into shares of Common Stock and the exercise of all outstanding options, warrants and other rights exercisable for shares of Common Stock. If the Company does not have the requisite number of authorized but unissued shares of Common Stock to make any adjustment, the Company shall use commercially reasonable efforts to obtain the necessary shareholder consent to increase the authorized number of shares of Common Stock to make such an adjustment pursuant to this Section 3(a).

(i) Subdivision or Combination of Stock. If the Company at any time after the date of issuance of this Warrant subdivides (by any stock split, stock dividend, recapitalization or otherwise) its outstanding shares of Common Stock into a greater number of shares, the Exercise Price in effect immediately prior to such subdivision shall be proportionately reduced and the number of Warrant Shares shall be proportionately increased. If the Company at any time after the date of issuance of this Warrant combines (by combination, reverse stock split or otherwise) its outstanding shares of Common Stock into a smaller number of shares, the Exercise Price in effect immediately prior to such combination will be proportionately increased and the number of Warrant Shares shall be proportionately decreased. Any adjustment under this Section 3(a)(i) shall become effective at the close of business on the date the subdivision or combination becomes effective. The Exercise Price and the Warrant Shares, as so adjusted, shall be readjusted in the same manner upon the happening of any successive event or events described in this Section 3(a)(i).

(ii) Distribution of Assets. If at any time or from time to time the holders of Common Stock (or any shares of stock or other securities at the time receivable upon the exercise of this Warrant) shall have received or become entitled to receive, without payment therefore: (x) Common Stock or any shares of stock or other securities which are at any time directly or indirectly convertible into or exchangeable for Common Stock, or any rights or options to subscribe for, purchase or otherwise acquire any of the foregoing by way of dividend or other distribution (other than a dividend or distribution covered in Section 3(a)(i) above); (y) any cash paid or payable otherwise than as a cash dividend; or (z) Common Stock or additional stock or other securities or property (including cash) by way of spinoff, split-up, reclassification, combination of shares or similar corporate rearrangement (other than shares of Common Stock pursuant to Section 3(a)(i) above); then and in each such case, the Holder hereof will, upon the exercise of this Warrant, be entitled to receive, in addition to the number of shares of Common

Stock receivable thereupon, and without payment of any additional consideration therefor, the amount of stock and other securities and property (including cash in the cases referred to in clauses (y) and (z) above) which such Holder would hold on the date of such exercise had such Holder been the holder of record of such Common Stock as of the date on which holders of Common Stock received or became entitled to receive such shares or all other additional stock and other securities and property.

(b) Certificate as to Adjustments. Upon the occurrence of each adjustment or readjustment pursuant to this Section 3, the Company at its expense shall promptly compute such adjustment or readjustment in accordance with the terms hereof and furnish to the Holder of this Warrant a certificate setting forth such adjustment or readjustment and showing in detail the facts upon which such adjustment or readjustment is based. The Company shall promptly furnish or cause to be furnished to the Holder a like certificate setting forth: (i) such adjustments and readjustments; and (ii) the number of shares and the amount, if any, of other property which at the time would be received upon the exercise of the Warrant.

(c) Fundamental Transaction. If, at any time while this Warrant is outstanding, (i) the Company, directly or indirectly, in one or more related transactions effects any merger or consolidation of the Company with or into another Person (but excluding a migratory merger effected solely for the purpose of changing the jurisdiction of incorporation of the Company), (ii) the Company, directly or indirectly, effects any sale, assignment, transfer or other disposition of all or substantially all of its assets in one or a series of related transactions, (iii) any, direct or indirect, purchase offer, tender offer or exchange offer (whether by the Company or another Person) is completed pursuant to which holders of Common Stock are permitted to sell, tender or exchange their shares for other securities, cash or property and has been accepted by the holders of 50% or more of the outstanding Common Stock or (iv) the Company, directly or indirectly, in one or more related transactions effects any reclassification, reorganization or recapitalization of the Common Stock or any compulsory share exchange pursuant to which the Common Stock is effectively converted into or exchanged for other securities, cash or property (each a "**Fundamental Transaction**"), then, this Warrant shall terminate, provided, however, that Company shall cause the portion of this Warrant that has vested and is exercisable as of the date of such Fundamental Transaction to be redeemed in connection with such Fundamental Transaction (which shall include an express provision in the definitive agreement related to such Fundamental Transaction to obligate the parties to effectuate the redemption or similar repurchase or "cash out" of the vested and exercisable portion of this Warrant as contemplated in this Section 3(c)) for the same consideration that would have been payable in respect of all of the vested and exercisable Warrant Shares that would have been issuable to the Holder if this Warrant had been fully exercised by Cashless Exercise on the date of, and immediately prior to, the Fundamental Transaction.

4. TRANSFERS AND EXCHANGES OF WARRANT AND WARRANT SHARES

(a) Registration of Transfers and Exchanges. Subject to Section 4(c), upon the Holder's surrender of this Warrant, with a duly executed copy of the Form of Assignment attached as **Exhibit B**, to the Secretary of the Company at its principal offices or at such other office or agency as the Company may specify in writing to the Holder, the Company shall register the transfer of all or any portion of this Warrant. Upon such registration of transfer, the Company shall issue a new Warrant, in substantially the form of this Warrant, evidencing the acquisition rights transferred to the transferee and a new Warrant, in similar form, evidencing the remaining acquisition rights not transferred, to the Holder requesting the transfer.

(b) Warrant Exchangeable for Different Denominations. The Holder may exchange this Warrant for a new Warrant or Warrants, in substantially the form of this Warrant, evidencing in the aggregate the right to purchase the number of Warrant Shares that may then be purchased hereunder, each of such new Warrants to be dated the date of such exchange and to represent the right to purchase such number of Warrant Shares as shall be designated by the Holder. The Holder shall surrender this Warrant with duly executed instructions regarding such re-certification of this Warrant to the Secretary of the Company at its principal offices or at such other office or agency as the Company may specify in writing to the Holder.

(c) Warrant not Transferrable; Restrictions on Transfers. This Warrant may not be transferred at any time without both (x) the consent of the Company, in its sole discretion, and (y) either (i) registration under the Securities Act or (ii) an exemption from such registration and a written opinion of legal counsel addressed to the Company that the proposed transfer of the Warrant may be effected without registration under the Securities Act, which opinion will be in form and from counsel reasonably satisfactory to the Company.

(d) Permitted Transfers and Assignments. Notwithstanding any provision to the contrary in this Section 4, the Holder may transfer, with or without consideration, this Warrant or any of the Warrant Shares (or a portion thereof) to the Holder's Affiliates (as such term is defined under Rule 144 of the Securities Act) without obtaining the consent of the Company or the opinion from counsel that may be required by Section 4(c)(ii); provided that the Holder delivers to the Company and its counsel certification, documentation, and other assurances reasonably required by the Company's counsel to enable the Company's counsel to render an opinion to the Company's Transfer Agent that such transfer does not violate applicable securities laws.

5. MUTILATED OR MISSING WARRANT CERTIFICATE

If this Warrant is mutilated, lost, stolen or destroyed, upon request by the Holder, the Company will, at its expense, issue, in exchange for and upon cancellation of the mutilated Warrant, or in substitution for the lost, stolen or destroyed Warrant, a new Warrant, in substantially the form of this Warrant, representing the right to acquire the equivalent number of Warrant Shares; provided that, as a prerequisite to the issuance of a substitute Warrant, the Company may require satisfactory evidence of loss, theft or destruction as well as an indemnity from the Holder of a lost, stolen or destroyed Warrant.

6. PAYMENT OF TAXES

The Company shall not be required to pay any tax in respect of the preparation, issuance, delivery or transfer of this Warrant or the Warrant Shares to the Holder or any other Person.

7. FRACTIONAL WARRANT SHARES

No fractional Warrant Shares shall be issued upon exercise of this Warrant. The Company, in lieu of issuing any fractional Warrant Share, shall round up the number of Warrant Shares issuable to nearest whole share. The Company shall not be required to make any cash or other adjustment in respect of such fraction of a share to which the Holder would otherwise be entitled.

8. REPRESENTATIONS AND WARRANTIES

(a) Holder Representations. The Holder represents and warrants to, and covenants with, the Company that: (i) the Holder is an “accredited investor” as defined in Regulation D under the Securities Act and the Holder is also knowledgeable, sophisticated and experienced in making, and is qualified to make, decisions with respect to investments in shares presenting an investment decision like that involved in the purchase of the Warrant, including investments in comparable companies, and has requested, received, reviewed and considered all information it deemed relevant in making an informed decision to purchase the Warrant; (ii) the Holder is acquiring the Warrant in the ordinary course of its business and for its own account for investment only and with no present intention of distributing the Warrant or entering into any arrangement or understanding with any other persons regarding the distribution of the Warrant; and (iii) the Holder will not, directly or indirectly, offer, sell, pledge, transfer or otherwise dispose of (or solicit any offers to buy, purchase or otherwise acquire or take a pledge of) the Warrant except in compliance with the Securities Act, applicable state securities laws and the respective rules and regulations promulgated thereunder. The Holder understands that its acquisition of the Warrant has not been registered under the Securities Act or registered or qualified under any state securities law in reliance on specific exemptions therefrom, which exemptions may depend upon, among other things, the bona fide nature of the Holder’s investment intent as expressed herein.

(b) Compliance With Securities Laws. The Holder hereby covenants with the Company not to make a sale of the Warrant, including the Warrant Shares, without complying with the provisions of this Warrant, and without effectively causing the prospectus delivery requirement under the Securities Act to be satisfied (unless the Holder is selling such Warrant in a transaction not subject to the prospectus delivery requirements), and the Holder acknowledges that any certificates evidencing the Warrant or Warrant Shares, will be imprinted with a legend that prohibits their transfer except in accordance therewith.

(c) Disclosure of Information. Holder believes it has received all the information it considers necessary or appropriate for deciding whether to purchase the Warrant. Holder further represents that it has had an opportunity to ask questions and receive answers from the Company regarding the terms and conditions of the offering of the Warrant and the business, properties, prospects and financial condition of the Company.

(d) Investment Decision by Holder. The Holder understands that nothing in this Warrant or any other materials presented to the Holder in connection with the purchase and sale of the Warrant constitutes legal, tax or investment advice. The Holder has consulted such legal, tax and investment advisors as it, in its sole discretion, has deemed necessary or appropriate in connection with its purchase of the Warrant.

9. NO EQUITY INTEREST RIGHTS AND LEGEND

No holder of this Warrant, as such, shall be entitled to vote or be deemed the holder of any other securities of the Company that may at any time be issuable on the exercise hereof, nor shall anything contained herein be construed to confer upon the holder of this Warrant, as such, the rights of a shareholder of the Company or the right to vote for the election of directors or upon any matter submitted to shareholders at any meeting thereof, or give or withhold consent to any corporate action or to receive notice of meetings or other actions affecting shareholders (except as provided herein), or to receive dividends or subscription rights or otherwise (except as provide herein).

Each certificate or book entry position for Warrant Shares initially issued upon the exercise of this Warrant, and each certificate or book entry position for Warrant Shares issued to any subsequent transferee of such Warrant Shares, shall be stamped or otherwise imprinted with a legend in substantially the following form:

THE SECURITIES REPRESENTED HEREBY HAVE BEEN ISSUED PURSUANT TO AN EXEMPTION FROM THE REGISTRATION REQUIREMENTS OF THE UNITED STATES SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"). THE HOLDER HEREOF, BY PURCHASING SUCH SECURITIES, AGREES FOR THE BENEFIT OF THE COMPANY THAT SUCH SECURITIES MAY NOT BE OFFERED, SOLD, PLEDGED OR OTHERWISE TRANSFERRED UNLESS THE SECURITIES ARE REGISTERED UNDER THE SECURITIES ACT OR AN EXEMPTION FROM THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT IS AVAILABLE. IN ADDITION, HEDGING TRANSACTIONS INVOLVING SUCH SECURITIES MAY NOT BE CONDUCTED UNLESS IN COMPLIANCE WITH THE SECURITIES ACT.

10. NOTICES

All notices, consents, waivers and other communications under this Warrant must be in writing and will be deemed given to a party: (a) when delivered to the appropriate address of the Holder or the Company, as applicable, by hand or by nationally recognized overnight courier service (costs prepaid); (b) when sent by facsimile or e-mail to the Holder or the Company, as applicable, with confirmation of transmission by the transmitting equipment; (c) when received or rejected by the addressee, if sent by certified mail, return receipt requested, to the Holder or the Company, as applicable; or (d) seven days after the placement of the notice into the mails (first class postage prepaid), to the Holder or the Company, as applicable. Such notices shall be sent, if to the Holder, to MZHCI, LLC, 5055 Avenida Encinas, Suite 130, Carlsbad, CA 92008, or if to the Company, to it at 1540 Drew Ave., Davis CA 95618, Attention: Linda V. Moore, General Counsel (or to such other address, facsimile number or e-mail address as the Holder or the Company as a party may designate by notice the other party) with a copy to Morrison & Foerster LLP, 755 Page Mill Road, Palo Alto, CA 94304, Attention: Charles S. Farman, Esq.

11. SEVERABILITY

If a court of competent jurisdiction holds any provision of this Warrant invalid or unenforceable, the other provisions of this Warrant will remain in full force and effect. Any provision of this Warrant held invalid or unenforceable only in part or degree will remain in full force and effect to the extent not held invalid or unenforceable.

12. BINDING EFFECT

This Warrant shall be binding upon and inure to the sole and exclusive benefit of the Company, its successors and assigns, the registered Holder or Holders from time to time of this Warrant and the Warrant Shares.

13. SURVIVAL OF RIGHTS AND DUTIES

This Warrant shall terminate and be of no further force and effect on the earlier of 5:00 P.M., Eastern Time, on the Expiration Date or the date on which this Warrant has been exercised in full.

14. GOVERNING LAW

This Warrant shall be governed by and construed in accordance with California law without giving effect to any choice of law rule that would cause the application of the laws of any jurisdiction other than the internal laws of the State of California to the rights and duties of the parties.

15. DISPUTE RESOLUTION

In the case of a dispute as to the determination of the Exercise Price or the arithmetic calculation of the Warrant Shares, the Company shall submit the disputed determinations or arithmetic calculations via facsimile within two (2) Business Days of receipt of the Notice of Exercise giving rise to such dispute, as the case may be, to the Holder. If the Holder and the Company are unable to agree upon such determination or calculation of the Exercise Price or the Warrant Shares within three Business Days of such disputed determination or arithmetic calculation being submitted to the Holder, then the Company shall, within two (2) Business Days, submit via facsimile the disputed determination of the Exercise Price to an independent, reputable investment bank or accounting firm selected by the Company and approved by the Holder. The Company shall cause at its expense the investment bank or the accountant, as the case may be, to perform the determinations or calculations and notify the Company and the Holder of the results no later than ten (10) Business Days from the time it receives the disputed determinations or calculations. Such investment bank's or accountant's determination or calculation, as the case may be, shall be binding upon all parties absent demonstrable error.

16. NOTICES OF RECORD DATE

Upon (a) any establishment by the Company of a record date of the holders of any class of securities for the purpose of determining the holders thereof who are entitled to receive any dividend or other distribution, or right or option to acquire securities of the Company, or any other right, or (b) any capital reorganization, reclassification, recapitalization, merger or consolidation of the Company with or into any other corporation, any transfer of all or substantially all the assets of the Company, or any voluntary or involuntary dissolution, liquidation or winding up of the Company, or the sale, in a single transaction, of a majority of the Company's voting equity securities (whether newly issued, or from treasury, or previously issued and then outstanding, or any combination thereof), the Company shall mail to the Holder at least ten (10) Business Days, or such longer period as may be required by law, prior to the record date specified therein, a notice specifying (i) the date established as the record date for the purpose of such dividend, distribution, option or right and a description of such dividend, option or right, (ii) the date on which any such reorganization, reclassification, transfer, consolidation, merger, dissolution, liquidation or winding up, or sale is expected to become effective and (iii) the date, if any, fixed as to when the holders of record of Common Stock shall be entitled to exchange their shares of Common Stock for securities or other property deliverable upon such reorganization, reclassification, transfer, consolidation, merger, dissolution, liquidation or winding up.

17. RESERVATION OF SHARES

The Company shall reserve and keep available out of its authorized but unissued shares of Common Stock for issuance upon the exercise of this Warrant, free from pre-emptive rights, such number of shares of Common Stock for which this Warrant shall from time to time be exercisable. The Company will take all such reasonable action as may be necessary to assure that such Warrant Shares may be issued as provided herein without violation of any applicable law or regulation. Without limiting the generality of the foregoing, the Company covenants that it will use commercially reasonable efforts to take all such action as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and non-assessable Warrant Shares upon the exercise of this Warrant and use commercially reasonable efforts to obtain all such authorizations, exemptions or consents, including but not limited to consents from the Company's shareholders or Board of Directors or any public regulatory body, as may be necessary to enable the Company to perform its obligations under this Warrant.

18. HEADINGS

The headings used in this Warrant are for the convenience of reference only and shall not, for any purpose, be deemed a part of this Warrant.

19. AMENDMENT AND WAIVERS

Any term of this Warrant may be amended and the observance of any term of this Agreement may be waived (either generally or in a particular instance and either retroactively or prospectively), with the written consent of the Company and the Holders of a majority of the Warrant Shares issuable upon exercise of the Warrants.

20. NO THIRD PARTY RIGHTS

This Warrant is not intended, and will not be construed, to create any rights in any parties other than the Company and the Holder, and no Person may assert any rights as third-party beneficiary hereunder.

SIGNATURE PAGE FOLLOWS

IN WITNESS WHEREOF, the Company has caused this Warrant to be duly executed as of the date first set forth above.

MARRONE BIO INNOVATIONS, INC.

By: /s/ Pamela g. Marrone
Name: Pamela G. Marrone
Title:President and Chief Executive Officer

Agreed and acknowledged:

MZHCI, LLC

By: /s/ Ted Haberfield
Name: Ted Haberfield
Title:President

Exhibit 4.1

EXHIBIT A

NOTICE OF EXERCISE

(To be executed by the Holder of Warrant if such Holder desires to exercise Warrant)

To Marrone Bio Innovations, Inc.:

The undersigned hereby irrevocably elects to exercise this Warrant and to purchase thereunder, ___________________ full shares of Marrone Bio Innovations, Inc. common stock issuable upon exercise of the Warrant and delivery of:

(1) $__________ (in cash as provided for in the foregoing Warrant) and any applicable taxes payable by the undersigned pursuant to such Warrant; and

(2) __________ shares of Common Stock (pursuant to a Cashless Exercise in accordance with Section 1(b)(ii) of the Warrant) (check here if the undersigned desires to deliver an unspecified number of shares equal the number sufficient to effect a Cashless Exercise).

The undersigned requests that such shares be issued in the name of:

____

(Please print name, address and social security or federal employer identification number (if applicable))

____

____

If the shares issuable upon this exercise of the Warrant are not all of the Warrant Shares which the Holder is entitled to acquire upon the exercise of the Warrant, the undersigned requests that a new Warrant evidencing the rights not so exercised be issued in the name of and delivered to:

____

(Please print name, address and social security or federal employer identification number (if applicable))

____

____

Name of Holder (print):

(Signature):

____

(By:) _________________________________

(

Title:

Dated:

EXHIBIT B

FORM OF ASSIGNMENT

FOR VALUE RECEIVED, ___________________________________ hereby sells, assigns and transfers to each assignee set forth below all of the rights of the undersigned under the Warrant (as defined in and evidenced by the attached Warrant) to acquire the number of Warrant Shares set opposite the name of such assignee below and in and to the foregoing Warrant with respect to said acquisition rights and the shares issuable upon exercise of the Warrant:

Name of Assignee	Address	Number of Warrant Shares

If the total of the Warrant Shares are not all of the Warrant Shares evidenced by the foregoing Warrant, the undersigned requests that a new Warrant evidencing the right to acquire the Warrant Shares not so assigned be issued in the name of and delivered to the undersigned.

Name of Holder

(print):

(Signature):

____

(By:) ____

(

Title:
Dated:

Exhibit 31.1

I, Pamela G. Marrone, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Marrone Bio Innovations, Inc.;

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

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

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

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

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

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

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

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

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant’s ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant’s internal control over financial reporting.

Date: August 14, 2017

/s/ Pamela G. Marrone
Pamela G. Marrone
President and Chief Executive Officer

Exhibit 31.2

I, James B. Boyd, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Marrone Bio Innovations, Inc.;

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

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

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

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

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

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

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

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

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant’s ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant’s internal control over financial reporting.

Date: August 14, 2017

/s/ James B. Boyd

James B. Boyd
Chief Financial Officer and
Senior Vice President

Exhibit 32.1

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

I, Pamela G. Marrone, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that the Quarterly Report of Marrone Bio Innovations, Inc. on Form 10-Q for the fiscal quarter ended June 30, 2017 fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and that information contained in such Quarterly Report on Form 10-Q fairly presents in all material respects the financial condition and results of operations of Marrone Bio Innovations, Inc.

Date: August 14, 2017

By:	/s/ Pamela G. Marrone
Name:	Pamela G. Marrone
Title:	President and Chief Executive Officer

I, James B. Boyd, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that the Quarterly Report of Marrone Bio Innovations, Inc. on Form 10-Q for the fiscal quarter ended June 30, 2017 fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and that information contained in such Quarterly Report on Form 10-Q fairly presents in all material respects the financial condition and results of operations of Marrone Bio Innovations, Inc.

Date: August 14, 2017

By:	/s/ James B. Boyd
Name:	James B. Boyd
Title:	Chief Financial Officer and Senior Vice President

This certification accompanies this Report on Form 10-Q pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 and shall not be deemed filed by the Company for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the Exchange Act). Such certification will not be deemed to be incorporated by reference into any filing under the Securities Act of 1933, as amended, or the Exchange Act, except to the extent that the Company specifically incorporates it by reference.