

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

FORM 10-Q

(Mark One)

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

For the quarterly period ended September 30, 2018

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: 001-34885

**AMYRIS, INC.**

(Exact name of registrant as specified in its charter)

Delaware  
(State or other jurisdiction of  
incorporation or organization)

55-0856151  
(I.R.S. Employer  
Identification No.)

Amyris, Inc.  
5885 Hollis Street, Suite 100  
Emeryville, CA 94608  
(510) 450-0761

(Address and telephone number of principal executive offices)

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

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, or a non-accelerated filer.

Large accelerated filer	<input type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input checked="" type="checkbox"/>
Emerging growth company	<input type="checkbox"/>		

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

Shares outstanding of the Registrant's common stock:

Class  
Common Stock, \$0.0001 par value per share

Outstanding as of November 9, 2018  
71,910,536

**AMYRIS, INC.**  
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## PART I

## ITEM 1. FINANCIAL STATEMENTS

AMYRIS, INC.  
**CONDENSED CONSOLIDATED BALANCE SHEETS**  
(Unaudited)

<b>(In thousands, except shares and per share amounts)</b>	<b>September 30, 2018</b>	<b>December 31, 2017</b>
<b>Assets</b>		
Current assets:		
Cash and cash equivalents	\$ 19,045	\$ 57,059
Restricted cash	1,258	2,994
Accounts receivable, net of allowance of \$642 as of September 30, 2018 and December 31, 2017	35,564	24,281
Unbilled receivable	56	9,340
Inventories	6,260	5,408
Prepaid expenses and other current assets	5,541	5,525
<b>Total current assets</b>	<b>67,724</b>	<b>104,607</b>
Property, plant and equipment, net	16,622	13,892
Unbilled receivable, noncurrent	9,767	7,940
Restricted cash, noncurrent	959	959
Recoverable taxes from Brazilian government entities	1,053	1,445
Other assets	26,557	22,640
<b>Total assets</b>	<b>\$ 122,682</b>	<b>\$ 151,483</b>
<b>Liabilities, Mezzanine Equity and Stockholders' Deficit</b>		
Current liabilities:		
Accounts payable	\$ 11,380	\$ 15,921
Accrued and other current liabilities	27,263	29,402
Deferred revenue	6,698	4,880
Debt, current portion	61,904	36,924
Related party debt, current portion	47,020	20,019
<b>Total current liabilities</b>	<b>154,265</b>	<b>107,146</b>
Long-term debt, net of current portion	43,667	61,893
Related party debt, net of current portion	18,526	46,541
Derivative liabilities	98,662	119,978
Other noncurrent liabilities	8,152	10,632
<b>Total liabilities</b>	<b>323,272</b>	<b>346,190</b>
Commitments and contingencies (Note 9)		
Mezzanine equity:		
Contingently redeemable common stock (Note 5)	5,000	5,000
Stockholders' deficit:		
Preferred stock - \$0.0001 par value, 5,000,000 shares authorized as of September 30, 2018 and December 31, 2017, and 14,656 and 22,171 shares issued and outstanding as of September 30, 2018 and December 31, 2017, respectively	—	—
Common stock - \$0.0001 par value, 250,000,000 shares authorized as of September 30, 2018 and December 31, 2017; 64,090,445 and 45,637,433 shares issued and outstanding as of September 30, 2018 and December 31, 2017, respectively	6	5
Additional paid-in capital	1,202,850	1,048,274
Accumulated other comprehensive loss	(42,148)	(42,156)
Accumulated deficit	(1,367,235)	(1,206,767)
<b>Total Amyris, Inc. stockholders' deficit</b>	<b>(206,527)</b>	<b>(200,644)</b>
Noncontrolling interest	937	937
<b>Total stockholders' deficit</b>	<b>(205,590)</b>	<b>(199,707)</b>
<b>Total liabilities, mezzanine equity and stockholders' deficit</b>	<b>\$ 122,682</b>	<b>\$ 151,483</b>

See the accompanying notes to the unaudited condensed consolidated financial statements.

**AMYRIS, INC.**  
**CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS**  
(Unaudited)

<b>(In thousands, except shares and per share amounts)</b>	<b>Three Months Ended September 30,</b>		<b>Nine Months Ended September 30,</b>	
	<b>2018</b>	<b>2017</b>	<b>2018</b>	<b>2017</b>
<b>Revenue:</b>				
Renewable products (includes related party revenue of \$854, \$787, \$2,092 and \$1,512, respectively)	\$ 9,639	\$ 10,996	\$ 21,467	\$ 28,925
Licenses and royalties (includes related party revenue of \$(39), \$703, \$18,248 and \$703, respectively)	142	1,022	18,466	6,774
Grants and collaborations (includes related party revenue of \$1,748, \$634, \$5,611 and \$783, respectively)	5,085	12,179	21,125	27,158
Total revenue (includes related party revenue of \$2,563, \$2,124, \$25,951 and \$2,998, respectively)	14,866	24,197	61,058	62,857
<b>Cost and operating expenses:</b>				
Cost of products sold	8,574	17,637	19,873	47,684
Research and development	16,445	15,185	50,545	44,141
Sales, general and administrative	21,026	15,454	59,972	44,253
Total cost and operating expenses	46,045	48,276	130,390	136,078
Loss from operations	(31,179)	(24,079)	(69,332)	(73,221)
<b>Other income (expense):</b>				
Interest expense	(8,658)	(7,733)	(25,687)	(29,219)
Gain (loss) from change in fair value of derivative instruments	(25,048)	(18,728)	(64,596)	9,933
Gain (loss) upon extinguishment of derivative liability	(1,782)	16,036	75	25,489
Gain (loss) upon extinguishment of debt	—	461	(26)	(3,067)
Other income (expense), net	(1,654)	(136)	1,282	(576)
Total other income (expense), net	(37,142)	(10,100)	(88,952)	2,560
Loss before income taxes	(68,321)	(34,179)	(158,284)	(70,661)
(Provision for) benefit from income taxes	—	318	—	49
Net loss attributable to Amyris, Inc.	(68,321)	(33,861)	(158,284)	(70,612)
Less deemed dividend on capital distribution to related parties	—	—	—	(8,648)
Less deemed dividend related to beneficial conversion feature on Series A preferred stock	—	—	—	(562)
Less deemed dividend related to beneficial conversion feature on Series B preferred stock	—	(634)	—	(634)
Less deemed dividend related to beneficial conversion feature on Series D preferred stock	—	(5,757)	—	(5,757)
Less cumulative dividends on Series A and B preferred stock	(279)	(2,567)	(1,073)	(4,242)
Net loss attributable to Amyris, Inc. common stockholders	\$ (68,600)	\$ (42,819)	\$ (159,357)	\$ (90,455)
Loss per share attributable to common stockholders, basic and diluted	\$ (1.13)	\$ (1.14)	\$ (2.86)	\$ (3.32)
Weighted-average shares of common stock outstanding used in computing loss per share of common stock, basic and diluted	60,966,071	37,529,694	55,735,571	27,280,894

See the accompanying notes to the unaudited condensed consolidated financial statements.

**AMYRIS, INC.**  
**CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS**  
(Unaudited)

<b>(In thousands, except shares and per share amounts)</b>	<b>Three Months Ended September 30,</b>		<b>Nine Months Ended September 30,</b>	
	<b>2018</b>	<b>2017</b>	<b>2018</b>	<b>2017</b>
Comprehensive loss:				
Net loss attributable to Amyris, Inc.	\$ (68,321)	\$ (33,861)	\$ (158,284)	\$ (70,612)
Foreign currency translation adjustment, net of tax	670	1,402	8	303
Total comprehensive loss attributable to Amyris, Inc.	\$ (67,651)	\$ (32,459)	\$ (158,276)	\$ (70,309)

See the accompanying notes to the unaudited condensed consolidated financial statements.

**AMYRIS, INC.**  
**CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS**  
(Unaudited)

<b>(In thousands)</b>	<b>Nine Months Ended</b>	
	<b>September 30,</b>	
	<b>2018</b>	<b>2017</b>
<b>Cash flows from operating activities</b>		
Net loss	\$ (158,284)	\$ (70,612)
Adjustments to reconcile net loss to net cash used in operating activities:		
Loss (gain) from change in fair value of derivative instruments	64,596	(9,565)
Amortization of debt discount	10,568	10,108
Stock-based compensation	6,115	3,942
Depreciation and amortization	3,957	8,124
Loss on disposal and impairment of property, plant and equipment	943	37
Loss (gain) on foreign currency exchange rates	34	(205)
Loss upon extinguishment of debt	26	3,067
Receipt of equity in connection with collaboration arrangements revenue	—	(2,660)
Gain upon extinguishment of derivative liability	(75)	(25,489)
Gain on change in fair value of equity investment	(3,460)	—
Changes in assets and liabilities:		
Accounts receivable	(10,756)	(10,947)
Unbilled receivables	7,457	—
Inventories	(890)	(126)
Prepaid expenses and other assets	(1,781)	(12,962)
Accounts payable	(5,201)	3,119
Accrued and other liabilities	(2,216)	404
Deferred revenue	1,014	1,113
<b>Net cash used in operating activities</b>	<b>(87,953)</b>	<b>(102,652)</b>
<b>Cash flows from investing activities</b>		
Sales of short-term investments, net	—	2,999
Purchases of property, plant and equipment	(6,362)	(487)
<b>Net cash (used in) provided by investing activities</b>	<b>(6,362)</b>	<b>2,512</b>
<b>Cash flows from financing activities</b>		
Proceeds from exercises of warrants, net	60,544	—
Proceeds from issuance of debt, net of issuance costs	35,149	13,965
Proceeds from issuance of common stock in private placement	1,416	—
Proceeds from exercises of ESPP purchases	270	—
Proceeds from exercises of common stock options	301	147
Proceeds from issuance of convertible preferred stock	—	101,427
Payment of minimum employee taxes withheld upon net share settlement of restricted stock units	(196)	(87)
Principal payments on capital leases	(848)	—
Principal payments on debt	(41,970)	(26,708)
<b>Net cash provided by financing activities</b>	<b>54,666</b>	<b>88,744</b>
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(101)	(136)
Net decrease in cash, cash equivalents and restricted cash	(39,750)	(11,532)
Cash, cash equivalents and restricted cash at beginning of period	61,012	32,433
<b>Cash, cash equivalents and restricted cash at end of the period</b>	<b>\$ 21,262</b>	<b>\$ 20,901</b>
<b>Reconciliation of cash, cash equivalents and restricted cash to the condensed consolidated balance sheets</b>		
Cash and cash equivalents	\$ 19,045	\$ 15,865
Restricted cash, current	1,258	4,078
Restricted cash, noncurrent	959	958
<b>Total cash, cash equivalents and restricted cash</b>	<b>\$ 21,262</b>	<b>\$ 20,901</b>

See the accompanying notes to the unaudited condensed consolidated financial statements.

**AMYRIS, INC.**  
**CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS, Continued**  
(Unaudited)

<b>(In thousands)</b>	<b>Nine Months Ended</b>	
	<b>September 30,</b>	
	<b>2018</b>	<b>2017</b>
<b>Supplemental disclosures of cash flow information:</b>		
Cash paid for interest	\$ 14,783	\$ 6,805
<b>Supplemental disclosures of non-cash investing and financing activities:</b>		
Derecognition of derivative liabilities upon exercise of warrants	\$ 57,637	\$ —
Accrued interest added to debt principal	\$ 2,029	\$ 1,745
Acquisition of property, plant and equipment under accounts payable, accrued liabilities and notes payable	\$ 783	\$ 1,045
Financing of equipment	\$ 764	\$ 953
Issuance of convertible preferred stock upon conversion of debt	\$ —	\$ 40,204
Issuance of common stock upon conversion of debt	\$ —	\$ 28,702
Issuance of common stock for settlement of debt principal and interest payments	\$ —	\$ 14,144
Financing of insurance premium under notes payable	\$ —	\$ 191

See the accompanying notes to the unaudited condensed consolidated financial statements.

**AMYRIS, INC.**  
**NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS**  
**(Unaudited)**

**1. Basis of Presentation and Summary of Significant Accounting Policies**

Amyris, Inc. (Amyris or the Company) is a leading industrial biotechnology company that applies its technology platform to engineer, manufacture and sell high performance, natural, sustainably-sourced products into the Health & Wellness, Clean Beauty, and Flavor & Fragrance markets. The Company's proven technology platform enables the Company to rapidly engineer microbes and use them as catalysts to metabolize renewable, plant-sourced sugars into large volume, high-value ingredients. The Company's biotechnology platform and industrial fermentation process replace existing complex and expensive manufacturing processes. The Company has successfully used its technology to develop and produce eight distinct molecules at commercial volumes.

The accompanying unaudited condensed consolidated financial statements of Amyris, Inc. should be read in conjunction with the audited consolidated financial statements and notes thereto included in the 10-K, from which the condensed consolidated balance sheet as of December 31, 2017 is derived. The accompanying condensed consolidated financial statements have been prepared in accordance with U.S. generally accepted accounting principles (U.S. GAAP), for interim financial information and with the instructions to Form 10-Q and Article 10 of Regulation S-X. Accordingly, since they are interim statements, the accompanying condensed consolidated financial statements do not include all of the information and notes required by U.S. GAAP for complete financial statements. The accompanying condensed consolidated financial statements reflect all adjustments, consisting of normal recurring adjustments, that are, in the opinion of management, necessary to a fair statement of the results for the interim periods presented. Interim results are not necessarily indicative of results for a full year.

***Liquidity***

The Company has incurred significant operating losses since its inception and expects to continue to incur losses and negative cash flows from operations for at least the next 12 months following the issuance of these financial statements. As of September 30, 2018, the Company had negative working capital of \$105.6 million, excluding cash and cash equivalents and short-term investments (compared to negative working capital of \$59.6 million as of December 31, 2017), and an accumulated deficit of \$1.4 billion.

As of September 30, 2018, the Company's debt (including related party debt), net of deferred discount and issuance costs of \$21.5 million, totaled \$171.1 million, of which \$108.9 million is classified as current. However, \$23.3 million was converted into common stock in October and November 2018, thereby reducing the Company's short-term maturities by \$23.3 million; see Note 13, "Subsequent Events" for more information. The Company's debt service obligations through November 30, 2019 are \$111.4 million (excluding \$25.0 million of principal that will be mandatorily converted into common stock upon maturity), including \$15.7 million of anticipated cash interest payments. The Company's debt agreements contain various covenants, including certain restrictions on the Company's business that could cause the Company to be at risk of defaults, such as restrictions on additional indebtedness and cross-default clauses. A failure to comply with, or cure non-compliance events or obtain waivers for covenants violations, and other provisions of the Company's debt instruments, including any failure to make a payment when required, would generally result in events of default under such instruments, which could permit acceleration of such indebtedness. If such indebtedness is accelerated, it would generally also constitute an event of default under the Company's other outstanding indebtedness, permitting acceleration of a substantial portion of the Company's outstanding indebtedness. During the three months ended September 30, 2018, the Company did not meet certain covenants with one lender and obtained waivers; see Note 4, "Debt" for more information. However, there is no guarantee that the Company will not violate these covenants in the future or be able to obtain waivers for future violations.

Cash and cash equivalents of \$19.0 million as of September 30, 2018 are not sufficient to fund expected future negative cash flows from operations and cash debt service obligations through one year following the issuance of these financial statements. These factors raise substantial doubt about the Company's ability to continue as a going concern within one year after the date that these financial statements are issued. The financial statements do not include any adjustments that might result from the outcome of this uncertainty. The Company's ability to continue as a going concern will depend, in large part, on its ability to extend existing debt maturities by restructuring a majority of its convertible debt, which is uncertain and outside the control of the Company. Further, the Company's operating plan for the next 12 months from the date of issuance of these financial statements contemplates a significant reduction in its net operating cash outflows as compared to the previous 12 months, resulting from (i) revenue growth from sales of existing and new products such as Reb-M with positive gross margins, (ii) reduced cost of products sold as a percentage of renewable products revenue due to anticipated procurement and production efficiencies, and (iii) cash inflows from license fees, grants and collaborations. If the Company is unable to complete these actions, it expects to be unable to meet its operating cash flow needs and its obligations under its existing debt facilities. This could result in an acceleration of its obligation to repay all amounts outstanding under those facilities, and it may be forced to liquidate its assets or obtain additional equity or debt financing, which may not occur timely or on reasonable terms, if at all.

## ***Significant Accounting Policies***

Note 1, "Basis of Presentation and Summary of Significant Accounting Policies", to the audited consolidated financial statements in the 10-K includes a discussion of the significant accounting policies and estimates used in the preparation of the Company's consolidated financial statements. Except as noted below for the adoption of Accounting Standards Codification ("ASC") Topic 606 ("ASC 606"), *Revenue from Contracts with Customers*, and Accounting Standards Update ("ASU") 2016-01, *Financial Instruments-Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities*, there have been no material changes to the Company's significant accounting policies and estimates during the three and nine months ended September 30, 2018.

### **Revenue Recognition**

The Company recognizes revenue from the sale of renewable products, licenses of and royalties from intellectual property, and grants and collaborative research and development services. Revenue is measured based on the consideration specified in a contract with a customer and recognized when, or as, the Company satisfies a performance obligation by transferring control over a product or service to a customer. The Company generally does not incur costs to obtain new contracts. The costs to fulfill a contract are expensed as incurred.

The Company accounts for a contract when it has approval and commitment to perform from both parties, the rights of the parties are identified, payment terms are established, the contract has commercial substance and collectability of the consideration is probable. Changes to contracts are assessed for whether they represent a modification or should be accounted for as a new contract. The Company considers the following indicators among others when determining whether it is acting as a principal in the transaction and recording revenue on a gross basis: (i) the Company is primarily responsible for fulfilling the promise to provide the specified goods or service, (ii) the Company has inventory risk before the specified good or service has been transferred to a customer or after transfer of control to the customer and (iii) the Company has discretion in establishing the price for the specified good or service. If a transaction does not meet the Company's indicators of being a principal in the transaction, then the Company is acting as an agent in the transaction and the associated revenues are recognized on a net basis.

The Company's significant contracts and contractual terms with its customers are presented in Note 10, "Significant Revenue Agreements" in Part II, Item 8 of the 10-K.

The Company recognizes revenue when control has passed to the customer. The following indicators are evaluated in determining when control has passed to the customer: (i) the Company has a right to payment for the product or service, (ii) the customer has legal title to the product, (iii) the Company has transferred physical possession of the product to the customer, (iv) the customer has the significant risk and rewards of ownership of the product and (v) the customer has accepted the product. The Company's renewable products are delivered to customers from the Company's facilities with shipping terms typically specifying F.O.B. shipping point.

### ***Performance Obligations***

A performance obligation is a promise in a contract to transfer a distinct good or service to the customer. A contract's transaction price is allocated to each distinct performance obligation and recognized as revenue when, or as, the performance obligation is satisfied. The Company's contracts may contain multiple performance obligations if a promise to transfer the individual goods or services is separately identifiable from other promises in the contracts and, therefore, is considered distinct. For contracts with multiple performance obligations, the Company determines the standalone selling price of each performance obligation and allocates the total transaction price using the relative selling price basis.

The following is a description of the principal goods and services from which the Company generates revenue.

### ***Renewable Product Sales***

Revenues from renewable product sales are recognized as a distinct performance obligation on a gross basis as the Company is acting as a principal in these transactions, with the selling price to the customer recorded net of discounts and allowances. Revenues are recognized at a point in time when control has passed to the customer, which typically is upon the renewable products leaving the Company's facilities with the first transportation carrier. The Company, on occasion, may recognize revenue under a bill and hold arrangement, whereby the customer requests and agrees to purchase product but requests delivery at a later date. Under these arrangements, control transfers to the customer when the product is ready for delivery, which occurs when the product is identified separately as belonging to the customer, the product is ready for shipment to the customer in its current form, and the Company does not have the ability to direct the product to a different customer. It is at this point that we have right to payment, the customer obtains legal title, and the customer has the significant risks and rewards of ownership. The Company's renewable product sales do not include rights of return. Returns are accepted only if the product does not meet product specifications and such nonconformity is communicated to the Company within a set number of days of delivery. The Company offers a two-year assurance-type warranty to replace squalane products that do not meet Company-established criteria as set forth in the Company's trade terms. An estimate of the cost to replace the squalane products sold is made based on a historical rate of experience and recognized as a liability and related expense when the renewable product sale is consummated.

### *Licenses and Royalties*

*Licensing of Intellectual Property:* When the Company's intellectual property licenses are determined to be distinct from the other performance obligations identified in the arrangement, revenue is recognized from non-refundable, up-front fees allocated to the license at a point in time when the license is transferred to the licensee and the licensee is able to use and benefit from the license. For intellectual property licenses that are combined with other promises, the Company utilizes judgment to assess the nature of the combined performance obligation to determine whether the combined performance obligation is satisfied over time or at a point in time and, if over time, the appropriate method of measuring progress for purposes of recognizing revenue from non-refundable, up-front-fees. The Company evaluates the measure of progress each reporting period and, if necessary, adjusts the measure of performance and related revenue recognized.

*Royalties from Licensing of Intellectual Property:* The Company earns royalties from the licensing of its intellectual property whereby the licensee uses the intellectual property to produce and sell its products to its customers and the Company shares in the profits.

When the Company's intellectual property license is the only performance obligation, or it is the predominant performance obligation in arrangements with multiple performance obligations, the Company applies the sales-based royalty exception and revenue is estimated and recognized at a point in time when the licensee's product sales occur. Estimates of sales-based royalty revenues are made using the most likely outcome method, which is the single amount in a range of possible amounts derived from the licensee's historical sales volumes and sales prices of its products and recent commodity market pricing data and trends.

When the Company's intellectual property license is not the predominant performance obligation in arrangements with multiple performance obligations, the royalty represents variable consideration and is allocated to the transaction price of the predominant performance obligation which generally is the supply of renewable products to the Company's customers. Revenue is estimated and recognized at a point in time when the renewable products are delivered to the customer. Estimates of the amount of variable consideration to include in the transaction price are made using the expected value method, which is the sum of probability-weighted amounts in a range of possible amounts determined based on the cost to produce the renewable product plus a reasonable margin for the profit share. The Company only includes an amount of variable consideration in the transaction price to the extent it is probable that a significant reversal in the cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is subsequently resolved. Also, the transaction price is reduced for estimates of customer incentive payments payable by the Company for certain customer contracts.

### *Grants and Collaborative Research and Development Services*

*Collaborative Research and Development Services:* The Company earns revenues from collaboration agreements with customers to perform research and development services to develop new molecules using the Company's technology and to scale production of the molecules for commercialization and use in the collaborator's products. The collaboration agreements generally include providing the Company's collaborators with research and development services and with licenses to the Company's intellectual property to use the technology underlying the development of the molecules and to sell its products that incorporate the technology. The terms of the Company's collaboration agreements typically include one or more of the following: advance payments for the research and development services that will be performed, nonrefundable upfront license payments, milestone payments to be received upon the achievement of the milestone events defined in the agreements, and royalty payments upon the commercialization of the molecules in which the Company shares in the customer's profits.

Collaboration agreements are evaluated at inception to determine whether the intellectual property licenses represent distinct performance obligations separate from the research and development services. If the licenses are determined to be distinct, the non-refundable upfront license fee is recognized as revenue at a point in time when the license is transferred to the licensee and the licensee is able to use and benefit from the license while the research and development service fees are recognized over time as the performance obligations are satisfied. The research and development service fees represent variable consideration. Estimates of the amount of variable consideration to include in the transaction price are made using the expected value method, which is the sum of probability-weighted amounts in a range of possible amounts. The Company only includes an amount of variable consideration in the transaction price to the extent it is probable that a significant reversal in the cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is subsequently resolved. Revenue is recognized over time using either an input-based measure of labor hours expended or a time-based measure of progress towards the satisfaction of the performance obligations. The measure of progress is evaluated each reporting period and, if necessary, adjustments are made to the measure of progress and the related revenue recognized.

Collaboration agreements that include milestone payments are evaluated at inception to determine whether the milestone events are considered probable of achievement and estimates are made of the amount of the milestone payments to include in the transaction price using the most likely amount method which is the single amount in a range of possible amounts. If it is probable that a significant revenue reversal will not occur, the estimated milestone payment amount is included in the transaction price. Each reporting period, the Company re-evaluates the probability of achievement of the milestone events and any related constraint and, if necessary, adjusts its estimate of the overall transaction price. Any such adjustments are recorded on a cumulative basis, which would affect collaboration revenues in the period of adjustment.

The Company generally invoices its collaborators on a monthly or quarterly basis, or upon the completion of the effort or achievement of a milestone, based on the terms of each agreement. Deferred revenue arises from amounts received in advance of performing the research and development activities and is recognized as revenue in future periods as the performance obligations are satisfied.

*Grants:* The Company earns revenues from grants with government agencies to, among other things, provide research and development services to develop molecules using the Company's technology, and create research and development tools to improve the timeline and predictability for scaling molecules from proof of concept to market by reducing time and costs. Grants typically consist of research and development milestone payments to be received upon the achievement of the milestone events defined in the agreements.

The milestone payments are evaluated at inception to determine whether the milestone events are considered probable of achievement and estimates are made of the amount of the milestone payments to include in the transaction price using the most likely amount method which is the single amount in a range of possible amounts. If it is probable that a significant revenue reversal will not occur, the estimated milestone payment amount is included in the transaction price. Each reporting period, the Company re-evaluates the probability of achievement of the milestone events and any related constraint and, if necessary, adjusts its estimate of the overall transaction price. Any such adjustments are recorded on a cumulative basis, which would affect collaboration revenues in the period of adjustment. Revenue is recognized over time using a time-based measure of progress towards the satisfaction of the performance obligations. The measure of progress is evaluated each reporting period and, if necessary, adjustments are made to the measure of progress and the related revenue recognized.

For descriptions of the Company's other significant accounting policies, see the Company's Annual Report on Form 10-K for the year ended December 31, 2017.

### ***Recent Accounting Pronouncements***

#### **(a) Recent Accounting Standards, Pronouncements or Updates Recently Adopted**

In the nine months ended September 30, 2018, the Company adopted these new accounting standards or updates:

*Revenue Recognition* The Company adopted ASC 606 with a date of initial application of January 1, 2018. As a result, the Company has changed its accounting policy for revenue recognition as detailed above in "Significant Accounting Policies". The Company applied ASC 606 using the modified retrospective approach by recognizing the cumulative effect of initially applying ASC 606 to all contracts not completed as of the date of adoption as an adjustment to the opening balance of accumulated deficit at January 1, 2018. Therefore, the comparative information has not been adjusted and continues to be reported under the legacy revenue recognition guidance of ASC 605, "Revenue Recognition".

The Company applied ASC 606 using a practical expedient for contracts that were modified before the application date, which allowed us to determine an aggregate effect of all modifications that occurred before January 1, 2018, when determining the satisfied and unsatisfied performance obligations, the transaction price, and allocating that transaction price to the performance obligations instead of retrospectively restating the contracts for such contract modifications.

The cumulative effect of initially applying ASC 606 resulted in an increase to accumulated deficit at January 1, 2018 of approximately \$0.8 million. The increase in accumulated deficit arose primarily from a \$0.8 million increase of deferred revenue related to the effects of measuring and allocating the transaction price to the performance obligations under ASC 606 compared to the legacy guidance of ASC 605. The most significant change in accounting policy is the Company now estimates royalty revenues from licenses of the Company's intellectual property and recognizes estimated royalty revenues at a point in time when the Company sells its renewable products to its customers (if the sales-based royalty exception does not apply) or when the licensee sells its products to its customer (if the sales-based royalty exception does apply). Also, the transaction price for royalty revenues is reduced for variable incentive payments that may be payable by the Company to customers.

The following table presents the amounts by which revenue is affected in the current reporting period by the application of ASC 606 as compared with the legacy guidance that was in effect before the accounting change. No other consolidated statements of operations financial statement line items were impacted by the adoption of ASC 606.

(In thousands)	Three Months Ended September 30, 2018			Nine Months Ended September 30, 2018		
	As		Amounts Without the Adoption of ASC 606	As		Amounts Without the Adoption of ASC 606
	Reported	Adjustments		Reported	Adjustments	
Renewable products	\$ 9,639	\$ —	\$ 9,639	\$ 21,467	\$ —	\$ 21,467
Licenses and royalties	142	1,656	1,798	18,466	(14,091)	4,375
Grants and collaborations	5,085	(1,555)	3,530	21,125	(3,820)	17,305
Total revenue from all customers	\$ 14,866	\$ 101	\$ 14,967	\$ 61,058	\$ (17,911)	\$ 43,147

**Financial Instruments** In January 2016, the Financial Accounting Standards Board (FASB) issued ASU 2016-01, *Financial Instruments-Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities*, which changes the accounting for equity investments, financial liabilities under the fair value option, and the presentation and disclosure requirements for financial instruments. The Company adopted ASU 2016-01 on January 1, 2018 and, as a result, has changed its accounting policy to account for investments in equity securities (other than those accounted for using the equity method of accounting) at fair value with changes in fair value recognized in net income. The Company applied the modified retrospective approach by recognizing a \$1.4 million cumulative effect adjustment as an increase to the opening balance of accumulated deficit at January 1, 2018 representing an unrealized loss measured as the difference between the fair value and the cost basis of the Company's equity investments as of January 1, 2018 previously accounted for using the cost method of accounting.

**Classification of Cash Flow Elements** In August 2016, the FASB issued ASU 2016-15, *Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments*, which affects the classification of certain cash receipts and cash payments on the statement of cash flows. ASU 2016-15 results in a change in cash flow classification of debt prepayment or extinguishment costs. ASU 2016-15 became effective January 1, 2018 on a retrospective basis. Adoption of this ASU did not impact the Company's consolidated financial position, results of operations or cash flows.

**Restricted Cash in Statement of Cash Flows** In November 2016, the FASB issued ASU 2016-18, *Statement of Cash Flows (Topic 230): Restricted Cash*, which requires that a statement of cash flows explain the change during the period in the total of cash, cash equivalents, and amounts generally described as restricted cash or restricted cash equivalents. Therefore, amounts generally described as restricted cash and restricted cash equivalents should be included with cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown on the statement of cash flows. The accounting standard update became effective January 1, 2018 using a retrospective transition method for each period presented. Upon adoption, ASU 2016-18 has resulted in a change in the presentation of restricted cash in the statement of cash flows for current and prior periods presented.

**Derecognition of Nonfinancial Assets** In February 2017, the FASB issued ASU 2017-05, *Other Income—Gains and Losses from the Derecognition of Nonfinancial Assets (Subtopic 610-20): Clarifying the Scope of Asset Derecognition Guidance and Accounting for Partial Sales of Nonfinancial Assets*, which requires entities to apply certain recognition and measurement principles in ASC 606 when they derecognize nonfinancial assets, and in substance, nonfinancial assets, and the counterparty is not a customer. The guidance applies to: (1) contracts to transfer to a noncustomer a nonfinancial asset or group of nonfinancial assets, or an ownership interest in a consolidated subsidiary that does not meet the definition of a business and is not a not-for-profit activity; and (2) contributions of nonfinancial assets that are not a business to a joint venture or other noncontrolled investee. The accounting standard update became effective January 1, 2018 on a modified retrospective basis. Adoption of this ASU did not impact the Company's consolidated financial position, results of operations or cash flows.

**Staff Accounting Bulletin No 118 - Tax Cuts and Jobs Act of 2017** On December 22, 2017, the Tax Cuts and Jobs Act of 2017 (the Act) was signed into law, making significant changes to the Internal Revenue Code. Changes include, but are not limited to, a corporate tax rate decrease from 35% to 21%, the transition of U.S. international taxation from a worldwide tax system to a territorial system, and a one-time transition tax on the mandatory deemed repatriation of cumulative foreign earnings as of December 31, 2017.

Based on the Company's current operations it is anticipated that the only significant current impact of the Act for the Company will be the reduction in the U.S. corporate tax rate. The Act reduces the corporate tax rate to 21 percent, effective January 1, 2018. In December 2017, Staff Accounting Bulletin No. 118 (SAB 118) was issued to address the application of U.S. GAAP in situations when a registrant does not have the necessary information available, prepared, or analyzed in reasonable detail to complete the accounting for certain income tax effects of the Tax Act. As of September 30, 2018, due to the complexities of the new law, the Company has not yet completed its accounting for all the tax effects of the Tax Act, but has made a reasonable estimate of the effects on the Company's existing deferred tax balances. In all cases, the Company will continue to make and refine its calculations as additional analysis is completed. Specifically, the provisional items remaining relate to the Company's provisional estimate of the effects of the new rules governing the deductibility of executive compensation on its existing deferred tax balances and selection of accounting policy with respect to the "Global Intangible Low-Taxed Income" (GILTI). Provisional amounts recorded may also be adjusted as the Company gains a more thorough understanding of the tax law during the one-year measurement period allowed under SAB 118. The Act created a new requirement that certain income, referred to as GILTI, earned by controlled foreign corporations (CFCs) must be included currently in the gross income of the CFCs' U.S. shareholder. The Company's selection of an accounting policy with respect to the new GILTI tax rules will depend, in part, on analyzing the Company's global income to determine whether it expects to have future U.S. inclusions in taxable income related to GILTI and, if so, what the impact is expected to be. As of September 30, 2018, the Company has not yet made a policy decision regarding whether to record deferred taxes on GILTI.

#### (b) Recent Accounting Standards Pronouncements or Updates Not Yet Effective as of Period End

Leases In February 2016, the FASB issued ASU 2016-02, *Leases (Topic 842)*, as subsequently updated, with fundamental changes as to how entities account for leases. Lessees will need to recognize a right-of-use asset and a lease liability for virtually all of their leases (other than leases that meet the definition of a short-term lease). The liability will be equal to the present value of lease payments. The asset will be based on the liability, subject to adjustment, such as for initial direct costs. Additional disclosures for leases will also be required. The accounting standard update will be effective beginning in the first quarter of fiscal 2019 using a modified retrospective approach, which requires lessees and lessors to recognize and measure leases at the beginning of the earliest period presented. Alternatively, entities may elect an optional transition method allowing entities to continue to apply the guidance in ASC 840, *Leases*, including its disclosure requirements, in the comparative periods presented in the year that the new leases guidance in ASC 842, *Leases*, is adopted. Entities that elect this option would still adopt the new leases standard using a modified retrospective transition method, but they would recognize a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption rather than the earliest period presented. The Company is in the initial stages of evaluating the impact of the new standard on its accounting policies, processes and system requirements. The Company anticipates that the standard may have a material impact on the Company's condensed consolidated balance sheets due to the requirement to recognize leased right-of-use assets and corresponding liabilities related to leases on the Company's condensed consolidated balance sheets, but is still evaluating whether the standard might have a material impact on the Company's other consolidated financial statements.

Financial Instruments with "Down Round" Features In July 2017, the FASB issued ASU 2017-11, *Earnings Per Share (Topic 260); Distinguishing Liabilities from Equity (Topic 480); Derivatives and Hedging (Topic 815): Accounting for Certain Financial Instruments with Down Round Features*. The amendments of this ASU update the classification analysis of certain equity-linked financial instruments, or embedded features, with down round features, as well as clarify existing disclosure requirements for equity-classified instruments. When determining whether certain financial instruments should be classified as liabilities or equity instruments, a down round feature no longer precludes equity classification when assessing whether the instrument is indexed to an entity's own stock. The accounting standard update will be effective beginning in the first quarter of fiscal 2019 using a modified retrospective approach. The Company is in the initial stages of evaluating the impact of the new standard on its consolidated financial statements.

Non-employee Stock-based Compensation In June 2018, the FASB issued ASU 2018-07, *Improvements to Nonemployee Share-Based Payment Accounting*, which more closely aligns the accounting for employee and nonemployee stock-based compensation. Under the new standard, companies will no longer be required to value non-employee awards differently from employee awards. This accounting standard update will be effective beginning in the first quarter of fiscal 2019 using a modified retrospective approach. The Company anticipates that the new standard will not materially impact the Company's consolidated financial statements.

Fair Value Measurement In August 2018, the FASB issued ASU 2018-13, *Fair Value Measurement (Topic 820): Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement*, which amends ASC 820, *Fair Value Measurement*. ASU 2018-13 modifies the disclosure requirements for fair value measurements by removing, modifying or adding certain disclosures. The accounting standard update will be effective beginning in the first quarter of fiscal 2020, with removed and modified disclosures to be adopted on a retrospective basis, and new disclosures to be adopted on a prospective basis. The Company is in the initial stages of evaluating the impact of the new standard on its consolidated financial statements.

#### Use of Estimates

The preparation of the financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosures of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the periods presented. Actual results could differ from these estimates, and such differences may be material to the financial statements.

## Reclassifications

Certain prior period amounts have been reclassified to conform to the current period presentation in the Company's condensed consolidated financial statements and the accompanying notes to the condensed consolidated financial statements, as follows:

- The condensed consolidated statements of operations previously presented license fee revenue in combination with grants and collaborations revenue, and royalties (formerly referred to as "value share") were previously presented in combination with renewable products revenue. Licenses and royalties revenue is presented as a separate line within the condensed consolidated statements of operations. The reclassifications reflect the growth in the Company's business model of licensing its technology and earning royalties from customers utilizing the Company's technology in the products it produces and sells. The reclassifications had no impact on total revenue.
- The condensed consolidated statements of operations and condensed consolidated statements of cash flows previously presented gains or losses upon extinguishment of derivative liabilities in combination with gains or losses from change in fair value of derivative instruments. In 2018, the Company has begun separately identifying gains or losses upon extinguishment of derivative liabilities in the condensed consolidated statements of operations and condensed consolidated statements of cash flows, resulting in the need to present prior year amounts on the same basis. The reclassification had no impact on net loss.
- In the statements of cash flows, the prior period has been restated to reflect accounting standards changes for reporting restricted cash.

## 2. Balance Sheet Details

### *Inventories*

Inventories are stated at the lower of cost or net realizable value and are comprised of the following:

<b>(In thousands)</b>	<b>September 30, 2018</b>	<b>December 31, 2017</b>
Raw materials	\$ 1,129	\$ 819
Work-in-process	929	364
Finished goods	4,202	4,225
Inventories	<u>\$ 6,260</u>	<u>\$ 5,408</u>

### *Property, Plant and Equipment, Net*

Property, plant and equipment, net is comprised of the following:

<b>(In thousands)</b>	<b>September 30, 2018</b>	<b>December 31, 2017</b>
Machinery and equipment	\$ 46,725	\$ 49,277
Leasehold improvements	40,703	40,036
Computers and software	10,666	9,555
Furniture and office equipment, vehicles and land	3,705	3,415
Construction in progress	19,343	17,438
	121,142	119,721
Less: accumulated depreciation and amortization	(104,520)	(105,829)
Property, plant and equipment, net	<u>\$ 16,622</u>	<u>\$ 13,892</u>

Property, plant and equipment, net includes \$4.9 million and \$4.2 million of machinery and equipment under capital leases as of September 30, 2018 and December 31, 2017, respectively. Accumulated amortization of assets under capital leases totaled \$2.1 million and \$1.6 million as of September 30, 2018 and December 31, 2017, respectively.

During the three and nine months ended September 30, 2018, the Company capitalized \$0.5 million and \$2.1 million, respectively, of internal labor costs required to automate, integrate and ready certain laboratory and plant equipment for its intended use.

Depreciation and amortization expense, including amortization of assets under capital leases, was \$1.0 million and \$2.7 million for the three months ended September 30, 2018 and 2017, respectively, and \$4.0 million and \$8.1 million for the nine months ended September 30, 2018 and 2017, respectively.

**Other Assets**

Other assets are comprised of the following:

<b>(In thousands)</b>	<b>September 30, 2018</b>	<b>December 31, 2017</b>
Contingent consideration	\$ 7,805	\$ 8,151
Prepaid royalty	6,847	7,409
Equity investment in SweeGen	5,313	3,233
Deposits	4,171	2,462
Goodwill	560	560
Other	1,861	825
Other assets	<u>\$ 26,557</u>	<u>\$ 22,640</u>

**Accrued and Other Current Liabilities**

Accrued and other current liabilities are comprised of the following:

<b>(In thousands)</b>	<b>September 30, 2018</b>	<b>December 31, 2017</b>
Payroll and related expenses	\$ 9,774	\$ 7,238
Accrued interest	6,010	8,213
SMA relocation accrual	2,964	3,587
Tax-related liabilities	2,154	5,837
Professional services	1,402	1,894
Contract termination	1,000	—
Other	3,959	2,633
Total accrued and other current liabilities	<u>\$ 27,263</u>	<u>\$ 29,402</u>

### 3. Fair Value Measurement

#### *Assets and Liabilities Measured and Recorded at Fair Value on a Recurring Basis*

The following tables summarize assets and liabilities measured at fair value, and the respective fair value by input classification level within the fair value hierarchy:

<b>(In thousands)</b>	<b>September 30, 2018</b>				<b>December 31, 2017</b>			
	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Total</b>	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Total</b>
<b>Assets</b>								
Money market funds	\$ —	\$ —	\$ —	\$ —	\$ 53,199	\$ —	\$ —	\$ 53,199
Certificates of deposit	—	—	—	—	7,813	—	—	7,813
Equity investment in SweeGen	—	5,313	—	5,313	—	—	—	—
Total assets measured and recorded at fair value	<u>\$ —</u>	<u>\$ 5,313</u>	<u>\$ —</u>	<u>\$ 5,313</u>	<u>\$ 61,012</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 61,012</u>
<b>Liabilities</b>								
Embedded derivatives in connection with the issuance of debt and equity instruments	\$ —	\$ —	\$ 9,379	\$ 9,379	\$ —	\$ —	\$ 4,203	\$ 4,203
Freestanding derivative instruments in connection with the issuance of equity instruments	—	—	89,283	89,283	—	—	115,775	115,775
Total liabilities measured and recorded at fair value	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 98,662</u>	<u>\$ 98,662</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 119,978</u>	<u>\$ 119,978</u>

There were no transfers between levels during the periods presented.

#### *Equity Investment in SweeGen*

The Company holds 850,115 unregistered shares of SweeGen, Inc. (SweeGen) common stock received as payment in connection with a December 2016 revenue agreement between the Company and Phyto Tech Corp. (d/b/a Blue California), the parent of SweeGen. At September 30, 2018, the fair value of the shares was \$5.3 million, determined based on the over-the-counter market (OTCMKTS) trading price of the SweeGen shares (Level 2). For the three and nine months ended September 30, 2018, the Company recorded unrealized gains of \$1.7 million and \$3.5 million, respectively, for changes in fair value of the shares; the gains are included in Other Income (Expense), Net on the condensed consolidated statements of operations. The Company adopted ASU 2016-01 on January 1, 2018 and now accounts for its equity investment in SweeGen at fair value, with changes in fair value recognized in net income; see "Recent Accounting Pronouncements" in Note 1, "Basis of Presentation and Summary of Significant Accounting Policies" above. The fair value of the SweeGen shares is included in Other Assets in the condensed consolidated balance sheets.

#### *Derivative Liabilities Recognized in Connection with the Issuance of Debt and Equity Instruments*

The following table provides a reconciliation of the beginning and ending balances for the Company's derivative liabilities recognized in connection with the issuance of debt and equity instruments, measured at fair value using significant unobservable inputs (Level 3):

<b>(In thousands)</b>	<b>Equity-related Derivative Liability</b>	<b>Debt-related Derivative Liability</b>	<b>Total Derivative Liability</b>
Balance at December 31, 2017	\$ 112,368	\$ 7,610	\$ 119,978
Change in fair value of derivative liabilities	49,442	15,154	64,596
Derecognition upon extinguishment of derivative liabilities	(85,912)	—	(85,912)
Balance at September 30, 2018	<u>\$ 75,898</u>	<u>\$ 22,764</u>	<u>\$ 98,662</u>

The derivative liabilities recognized in connection with the issuance of equity and debt instruments represent the fair value of the make-whole provisions of the Series A and B Preferred Stock as well as the cash and anti-dilution warrants issued concurrently with the Series A, B and D Preferred Stock (see Note 6, "Stockholders' Deficit" in Part II, Item 8 of the Annual Report on Form 10-K), and conversion options, conversion price adjustment features and down round provisions associated with the Temasek Funding Warrant, August 2013 Financing Convertible Notes, 2014 144A Notes and 2015 144A Notes (see Note 4, "Debt" below and Note 6, "Stockholders' Deficit" in Part II, Item 8 of the Annual Report on Form 10-K).

The market-based assumptions and estimates used in applying a Monte Carlo simulation approach and Black-Scholes-Merton option value approach for valuing the derivative liabilities in connection with debt and equity instruments include amounts in the following ranges:

	<u>September 30, 2018</u>		<u>December 31, 2017</u>	
Risk-free interest rate	2.12%	- 3.01%	1.68%	- 2.40%
Risk-adjusted yields	13.90%	- 24.03%	18.40%	- 28.53%
Stock price volatility	45%	- 80%	45%	- 80%
Probability of change in control	0%	- 5%		5%
Stock price	\$7.94		\$3.75	
Credit spread	11.69%	- 21.65%	16.63%	- 26.70%
Estimated conversion dates	2018	- 2025	2018	- 2025

The valuation of the embedded derivatives in connection with the issuance of debt and equity instruments and freestanding derivative instruments in connection with the issuance of equity instruments can be significantly affected by changes in valuation assumptions. For example, all other things being equal, a decrease/increase in the Company's stock price, probability of change of control, credit spread, term to maturity/conversion or stock price volatility decreases/increases the valuation of the liabilities, whereas a decrease/increase in risk adjusted yields or risk-free interest rates increases/decreases the valuation of the liabilities. A third-party valuation specialist assisted in determining estimates of fair value.

See Note 6, "Stockholders' Deficit" in Part I, Item 1 of this Quarterly Report on Form 10-Q for more information about derecognition upon extinguishment of derivative liabilities in connection with the April 2018 warrants exercise.

#### *Changes in Fair Value*

Changes in the fair value of derivative liabilities measured at fair value on a recurring basis are recognized in "Gain (loss) from change in fair value of derivative instruments" in the condensed consolidated statements of operations.

#### *Assets and Liabilities Recorded at Carrying Value*

##### *Financial Assets and Liabilities*

The carrying amounts of certain financial instruments, such as cash equivalents, accounts receivable, accounts payable and accrued liabilities, approximate fair value due to their relatively short maturities and low market interest rates, if applicable. Loans payable, credit facilities and convertible notes are recorded at carrying value, which is representative of fair value at the date of acquisition. The Company estimates the fair value of loans payable and credit facilities using observable market-based inputs (Level 2) and estimates the fair value of convertible notes based on rates currently offered for instruments with similar maturities and terms (Level 3). The fair values and carrying values of the Company's debt were as follows:

<u>(In thousands)</u>	<u>September 30, 2018</u>		<u>December 31, 2017</u>	
	<u>Fair Value</u>	<u>Carrying Value</u>	<u>Fair Value</u>	<u>Carrying Value</u>
Total debt	\$ 166,218	\$ 171,117	\$ 156,900	\$ 165,377

#### 4. Debt

Net carrying amounts of debt are as follows:

(In thousands)	September 30, 2018			December 31, 2017		
	Principal	Unamortized Debt Discount	Net Balance	Principal	Unamortized Debt Discount	Net Balance
<b>Nonrelated Party</b>						
<i>Convertible notes</i>						
2015 Rule 144A convertible notes	\$ 37,887	\$ (3,268)	\$ 34,619	\$ 37,887	\$ (6,872)	\$ 31,015
2014 Rule 144A convertible notes	24,004	(1,445)	22,559	24,004	(3,170)	20,834
December 2017 convertible note	—	—	—	5,000	(25)	4,975
August 2013 financing convertible notes	4,416	(1,709)	2,707	4,009	(2,918)	1,091
	<u>66,307</u>	<u>(6,422)</u>	<u>59,885</u>	<u>70,900</u>	<u>(12,985)</u>	<u>57,915</u>
<i>Loans payable and credit facilities</i>						
GACP term loan facility	36,000	(1,489)	34,511	—	—	—
Senior secured loan facility	—	—	—	28,566	(253)	28,313
Ginkgo notes	12,000	(4,390)	7,610	12,000	(4,983)	7,017
Other loans payable	4,643	(1,203)	3,440	6,463	(1,277)	5,186
Other credit facilities	126	—	126	381	—	381
	<u>52,769</u>	<u>(7,082)</u>	<u>45,687</u>	<u>47,410</u>	<u>(6,513)</u>	<u>40,897</u>
Subtotal nonrelated party	<u>119,076</u>	<u>(13,504)</u>	<u>105,572</u>	<u>118,310</u>	<u>(19,498)</u>	<u>98,812</u>
<b>Related Party</b>						
<i>Related party convertible notes</i>						
August 2013 financing convertible notes	23,334	205	23,539	21,711	897	22,608
2014 Rule 144A convertible notes	24,705	(1,731)	22,974	24,705	(3,784)	20,921
R&D note	—	—	—	3,700	(18)	3,682
	<u>48,039</u>	<u>(1,526)</u>	<u>46,513</u>	<u>50,116</u>	<u>(2,905)</u>	<u>47,211</u>
<i>Related party loans payable</i>						
DSM note	25,000	(6,474)	18,526	25,000	(8,039)	16,961
Other DSM loan	506	—	506	393	—	393
February 2016 private placement	—	—	—	2,000	—	2,000
	<u>25,506</u>	<u>(6,474)</u>	<u>19,032</u>	<u>27,393</u>	<u>(8,039)</u>	<u>19,354</u>
Subtotal related party	<u>73,545</u>	<u>(8,000)</u>	<u>65,545</u>	<u>77,509</u>	<u>(10,944)</u>	<u>66,565</u>
Total debt	<u>192,621</u>	<u>(21,504)</u>	<u>171,117</u>	<u>195,819</u>	<u>(30,442)</u>	<u>165,377</u>
Less: current portion			(108,924)			(56,943)
Long-term debt, net of current portion			<u>\$ 62,193</u>			<u>\$ 108,434</u>

During the nine months ended September 30, 2018, aside from debt payments (including payments-in-kind), the following debt transactions occurred:

- *Senior Secured Loan Facility Repayment:* On June 29, 2018, the Company repaid in full the \$27.3 million outstanding principal balance owed under the Senior Secured Loan Facility between the Company and Stegodon Corporation (Stegodon).
- *GACP Term Loan Facility:* On June 29, 2018, the Company, certain of the Company's subsidiaries and GACP Finance Co., LLC (GACP) entered into a Loan and Security Agreement (the LSA) to borrow \$36.0 million (the GACP Term Loan Facility). The LSA also provides for an incremental secured term loan facility in an aggregate principal amount of up to \$35.0 million (the Incremental GACP Term Loan Facility and, together with the GACP Term Loan Facility, the GACP Term Loan Facilities), subject to certain conditions and approvals, to fund the construction of a custom-built manufacturing facility in Brazil. The majority of the net proceeds from the GACP Term Loan Facility were used to repay all amounts outstanding under the Senior Secured Loan Facility between the Company and Stegodon (see Note 4, "Debt" in Part II, Item 8 of the Annual Report on Form 10-K). The remaining net proceeds were used on July 2, 2018 to repay amounts outstanding under the R&D Note (see Note 4, "Debt" in Part II, Item 8 of the Annual Report on Form 10-K) at maturity.

Loans under the GACP Term Loan Facilities have a maturity date of July 1, 2021; provided, that if the Company has not (i) met certain financial conditions on or prior to January 7, 2019 or (ii) refinanced the 2015 144A Notes and 2014 144A Notes with indebtedness that has a maturity date which is later than July 1, 2021 or converted such notes into equity prior to January 12, 2019, then the maturity date will be January 12, 2019. The GACP Term Loan Facilities will amortize beginning on July 1, 2019 in quarterly installments equal to 2.5% of the original loan amounts, with the remaining principal balance payable on the maturity date. Loans under the GACP Term Loan Facilities will accrue interest at a rate per annum equal to the sum of (i) the greater of (A) the U.S. prime rate as reported in the Wall Street Journal and (B) 4.0%, plus (ii) 6.25%, payable monthly. The GACP Term Loan Facilities are guaranteed by the subsidiaries of the Company party to the LSA and collateralized by first-priority liens on substantially all the Company's and such subsidiaries' assets, including intellectual property, subject to certain exceptions. The LSA includes customary terms, covenants and restrictions, including mandatory prepayments upon the occurrence of certain events, including asset sales, casualty events, incurrence of additional indebtedness and borrowing base deficiencies, subject to certain exceptions and reinvestment rights. The LSA contains certain financial covenants that include quarterly minimum revenues, minimum liquidity amounts and an asset coverage ratio. At September 30, 2018, the Company did not achieve minimum revenue required at September 30, 2018 and obtained a permanent waiver for this violation. The Company also amended the LSA to reduce the December 31, 2018 minimum revenue amount and increase the minimum liquidity amount. However, there is no guarantee that the Company will not violate these covenants in the future or be able to obtain waivers for future violations.

The Company paid origination fees at closing equal to 4%, or \$1.4 million, of the funded amount of the GACP Term Loan Facility and other closing costs totaling \$0.2 million, plus an agency fee of \$25,000 per quarter during the term of the GACP Term Loan Facilities. The \$1.6 million of issuance costs will be amortized using the effective interest method over the expected 3-year loan term.

- *August 2013 Financing Convertible Notes:* In August 2018, in connection with certain amendments to the August 2017 Vivo Cash Warrants (see Note 6, "Stockholders' Deficit"), the conversion price of the August 2013 financing convertible notes was reduced from \$5.2977 per share to \$4.40 per share.

#### Future Minimum Payments

Future minimum payments under the Company's debt agreements as of September 30, 2018 are as follows:

<b>Years ending December 31 (In thousands)</b>	<b>Convertible Notes</b>	<b>Loans Payable and Credit Facilities</b>	<b>Related Party Convertible Notes</b>	<b>Related Party Loans Payable and Credit Facilities</b>	<b>Total</b>
2018 (remaining three months)	\$ 2,580	\$ 1,508	\$ 803	\$ 1,132	\$ 6,023
2019	69,333	9,068	25,508	2,500	106,409
2020	—	8,915	—	2,500	11,415
<b>2021</b>	—	34,178	—	27,521	61,699
2022	—	13,416	—	—	13,416
Thereafter	—	2,565	—	—	2,565
Total future minimum payments	71,913	69,650	26,311	33,653	201,527
Less: amount representing interest	(5,159)	(16,881)	(1,606)	(8,146)	(31,792)
Add: amount mandatorily convertible into common stock upon maturity	—	—	24,970	—	24,970
Less: future conversion of accrued interest to principal	(447)	—	(1,636)	—	(2,083)
Present value of minimum debt payments	66,307	52,769	48,039	25,507	192,622
Less: current portion of debt principal	(66,307)	(2,739)	(48,039)	(507)	(117,592)
Noncurrent portion of debt principal	\$ —	\$ 50,030	\$ —	\$ 25,000	\$ 75,030

#### 5. Mezzanine Equity

Mezzanine equity is comprised of the following:

<b>(In thousands)</b>	<b>September 30, 2018</b>	<b>December 31, 2017</b>
Contingently redeemable common stock	\$ 5,000	\$ 5,000

Mezzanine equity at September 30, 2018 and December 31, 2017 is comprised of proceeds from shares of common stock sold on May 10, 2016 to the Bill & Melinda Gates Foundation (Gates Foundation). In connection with the stock sale, the Company and the Gates Foundation entered into an agreement under which the Company agreed to expend an aggregate amount not less than the proceeds from the stock sale to develop a yeast strain that produces artemisinic acid and/or amorphadiene at a low cost and to supply such artemisinic acid and amorphadiene to companies qualified to convert artemisinic acid and amorphadiene to artemisinin for inclusion in artemisinin combination therapies used to treat malaria. If the Company defaults in its obligation to use the proceeds from the stock sale as set forth above or defaults under certain other commitments in the agreement, the Gates Foundation will have the right to request that the Company redeem, or facilitate the purchase by a third party, the shares then held by the Gates Foundation at a price per share equal to the greater of (i) the closing price of the Company's common stock on the trading day prior to the redemption or purchase, as applicable, or (ii) an amount equal to \$17.10 plus a compounded annual return of 10%.

## 6. Stockholders' Deficit

### Warrants

In connection with various debt and equity transactions (see Note 4, "Debt" and Note 6, "Stockholders' Deficit" in Part II, Item 8 of the Annual Report on Form 10-K), the Company has issued warrants exercisable for shares of common stock. The following table summarizes warrant activity for the nine months ended September 30, 2018:

Transaction	Number Outstanding as of December 31, 2017	Additional Warrants Issued	Exercises	Number Outstanding as of September 30, 2018
July 2015 private placement	81,197	—	—	81,197
July 2015 related party debt exchange	2,082,010	471,204	—	2,553,214
February 2016 related party private placement	171,429	—	—	171,429
May 2017 cash and dilution warrants	18,042,568	—	(10,784,933)	7,257,635
August 2017 cash and dilution warrants	9,543,234	—	(5,575,118)	3,968,116
April 2018 warrant exercise agreements	—	3,616,174	—	3,616,174
August 2018 warrant exercise agreements	—	12,097,164	—	12,097,164
Other	1,406	—	—	1,406
	29,921,844	16,184,542	(16,360,051)	29,746,335

For the nine months ended September 30, 2018, net proceeds were \$60.5 million from the issuance of common stock upon exercise of 16,360,051 warrants.

### Warrant Exercises and New Warrant Issuances

#### April 2018 Warrant Transactions

On April 12, 2018, certain holders of the May 2017 Warrants (see Note 6, "Stockholders' Deficit" in Part II, Item 8 of the Annual Report on Form 10-K) exercised their May 2017 Cash Warrants to purchase 3,616,174 shares of common stock for net proceeds to the Company of \$14.5 million and surrendered their May 2017 Dilution Warrants. Upon exercise of such May 2017 Cash Warrants and surrender of such May 2017 Dilution Warrants, certain derivative liabilities representing certain anti-dilution rights embedded in the May 2017 Warrants were effectively settled. Concurrent with the exercise of the May 2017 Cash Warrants and surrender of such May 2017 Dilution Warrants, the Company issued new warrants to these same holders to purchase 3,616,174 shares of common stock, exercisable at a price of \$7.00 per share. The new warrants were fully exercisable upon issuance, with an expiration date of July 12, 2019. The new warrants do not provide the holders with anti-dilution protection. Consequently, the new warrants were treated as additional consideration to the May 2017 Warrant holders in exchange for their anti-dilution rights embedded in the original May 2017 Warrants. The Company used the Black-Scholes-Merton option pricing model to determine the fair value of the new warrants, which resulted in a fair value of \$9.4 million. Black-Scholes-Merton input assumptions were as follows: volatility of 90%, risk-free rate of 2.16%, expected term of 1.25 years, expected dividend yield of \$0, exercise price of \$7.00, and Company stock price on issue date of \$6.80. As a result of this exchange transaction, the Company recorded a \$1.9 million net gain on the extinguishment of the related derivative liability during the three months ended June 30, 2018. This net gain was comprised of an \$11.3 million gain on derecognition of the derivative liability and a \$9.4 million loss on issuance of the new warrant. These transactions resulted in a \$21.9 million decrease in the derivative liabilities underlying the May 2017 Warrants.

### August 2018 Warrant Transactions

In August 2018, Foris Ventures and Vivo Capital, related parties and holders of the May 2017 Warrants and August 2017 Warrants (see Note 6, "Stockholders' Deficit" in Part II, Item 8 of the Annual Report on Form 10-K), exercised their Cash Warrants and Dilution Warrants to purchase approximately 12.6 million shares of common stock for \$46.0 million in proceeds to the Company. Upon exercise of such Cash Warrants and Dilution Warrants, certain derivative liabilities representing certain anti-dilution rights embedded in the May 2017 Warrants and August 2017 Warrants were effectively settled. Concurrent with the exercise of the Cash Warrants and Dilution Warrants, the Company issued a series of new warrants to these same holders to purchase 12.1 million shares of common stock, exercisable at \$7.52 per share. The new warrants are exercisable any time after the six-month anniversary from the issuance date and for 15 months thereafter, with an expiration date in May 2020. The new warrants do not provide the holders with anti-dilution protection. Consequently, the new warrants were treated as additional consideration to the May 2017 Warrant and August 2017 Warrant holders in exchange for their anti-dilution rights embedded in the original May 2017 Warrants and August 2017 Warrants. The Company used the Black-Scholes-Merton option pricing model to determine the fair value of the new warrants, which resulted in a fair value of \$30.1 million. Black-Scholes-Merton input assumptions were as follows: volatility of 80%, risk-free rate of 2.57%–2.58%, expected term of 1.75 years, expected dividend yield of zero, exercise price of \$7.52, and Company stock price on issue date of \$6.56–\$6.79. During the three months ended September 30, 2018, as a result of this exchange transaction, the Company recorded a net loss of \$3.6 million, comprised of a \$26.5 million gain on derecognition of the derivative liability and a \$30.1 million loss on issuance of the new warrants. These transactions resulted in a \$63.3 million decrease in the derivative liabilities underlying the May 2017 Warrants and August 2017 Warrants.

### Temasek Funding Warrant

In August 2018, as a result of the reduction in the conversion price of the August 2013 financing convertible from \$5.2977 per share to \$4.40 per share (see Note 4, "Debt" above), the Temasek Funding Warrant (see Note 6, "Stockholders' Deficit" in Part II, Item 8 of the Annual Report on Form 10-K) became exercisable for an additional 471,204 shares of common stock in accordance with its terms.

### At Market Issuance Sales Agreement

On March 8, 2016, the Company entered into an At Market Issuance Sales Agreement (the ATM Sales Agreement) with FBR Capital Markets & Co. and MLV & Co. LLC (the Agents) under which the Company may issue and sell shares of its common stock having an aggregate offering price of up to \$50.0 million (the ATM Shares) from time to time through the Agents, acting as its sales agents, under the Company's Registration Statement on Form S-3 (File No. 333-203216), effective April 15, 2015. Sales of the ATM Shares through the Agents may be made by any method that is deemed an "at the market offering" as defined in Rule 415 under the Securities Act of 1933, as amended, including by means of ordinary brokers' transactions at market prices, in block transactions, or as otherwise agreed by the Company and the Agents. The Company will pay the applicable Agent a commission rate of up to 3.0% of the gross proceeds from the sale of any ATM Shares sold through such Agent under the ATM Sales Agreement. The ATM Sales Agreement includes no commitment by other parties to purchase ATM Shares the Company offers for sale.

During the three and nine months ended September 30, 2018, the Company issued and sold 0 and 205,168 shares of common stock under the ATM Sales Agreement, at an average price of \$6.90 per share, respectively, resulting in total net proceeds to the Company of \$1.4 million. The ATM Sales Agreement expired on April 15, 2018, and as a result, zero remained available for issuance under the ATM Sales Agreement as of September 30, 2018.

## 7. Consolidated Variable-interest Entities and Unconsolidated Investments

### Consolidated Variable-interest Entity

The table below reflects the carrying value of the Aprinnova joint venture (JV) (see Note 7, "Variable-interest Entities and Unconsolidated Investments" in Part II, Item 8 of the Annual Report on Form 10-K) assets and liabilities, for which the Company is the primary beneficiary at September 30, 2018:

<u>(In thousands)</u>	<u>September 30, 2018</u>	<u>December 31, 2017</u>
Assets	\$ 38,422	\$ 36,781
Liabilities	\$ 1,960	\$ 3,187

The Aprinnova JV's creditors have recourse only to the assets of the Aprinnova JV.

During the three and nine months ended September 30, 2018 and 2017, there was no activity in noncontrolling interest.

### Unconsolidated Investments

The Company's unconsolidated investments are summarized as follows:

<b>(Amounts in thousands)</b>	<b>Amyris Equity Ownership %</b>	<b>Carrying Value of Investment on Condensed Consolidated Balance Sheets</b>	
		<b>September 30, 2018</b>	<b>December 31, 2017</b>
Equity-method investments:			
Novvi LLC	20%	\$ —	\$ —
Total Amyris BioSolutions B.V.	25%	\$ —	\$ —
Other unconsolidated equity investment:			
SweeGen, Inc.	3%	\$ 5,313	\$ 3,233

### 8. Net Loss per Share Attributable to Common Stockholders

For the three and nine months ended September 30, 2018 and September 30, 2017, basic loss per share attributable to common stockholders was the same as diluted loss per share attributable to common stockholders because the inclusion of all potentially dilutive securities outstanding was antidilutive.

The following table presents the calculation of basic and diluted loss per share attributable to common stockholders:

<b>(In thousands, except shares and per share amounts)</b>	<b>Three Months Ended September 30,</b>		<b>Nine Months Ended September 30,</b>	
	<b>2018</b>	<b>2017</b>	<b>2018</b>	<b>2017</b>
Numerator:				
Net loss attributable to Amyris, Inc.	\$ (68,321)	\$ (33,861)	\$ (158,284)	\$ (70,612)
Less deemed dividend on capital distribution to related parties	—	—	—	(8,648)
Less deemed dividend related to beneficial conversion feature on Series A preferred stock	—	—	—	(562)
Less deemed dividend related to beneficial conversion feature on Series B preferred stock	—	(634)	—	(634)
Less deemed dividend related to beneficial conversion feature on Series D preferred stock	—	(5,757)	—	(5,757)
Less cumulative dividends on Series A and B preferred stock	(279)	(2,567)	(1,073)	(4,242)
Net loss attributable to Amyris, Inc. common stockholders, basic and diluted	<u>\$ (68,600)</u>	<u>\$ (42,819)</u>	<u>\$ (159,357)</u>	<u>\$ (90,455)</u>
Denominator:				
Weighted-average shares of common stock outstanding used in computing net loss per share of common stock, basic and diluted	<u>60,966,071</u>	<u>37,529,694</u>	<u>55,735,571</u>	<u>27,280,894</u>
Basic and diluted loss per share	<u>\$ (1.13)</u>	<u>\$ (1.14)</u>	<u>\$ (2.86)</u>	<u>\$ (3.32)</u>

Diluted loss per share for the nine months ended September 30, 2017 has been revised from the amount presented in the September 30, 2017 Form 10-Q. For that period, diluted loss attributable to Amyris, Inc. common stockholders was previously reported as \$125.9 million, and diluted loss per share was previously reported as \$4.61. The table shown above reflects the error correction. The Company does not consider the difference in amounts to be material to the financial statements for the nine months ended September 30, 2017 as originally filed or in the current presentation of the loss per share calculation.

The following outstanding shares of potentially dilutive securities were excluded from the computation of diluted loss per share of common stock because including them would have been antidilutive:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Period-end stock options to purchase common stock	5,449,701	949,023	5,449,701	949,023
Convertible promissory notes (1)	9,397,134	8,133,594	9,397,134	8,133,594
Period-end common stock warrants	25,986,432	31,303,080	25,986,432	31,303,080
Period-end restricted stock units	5,324,092	599,425	5,324,092	599,425
Period-end preferred stock	2,955,732	—	2,955,732	—
Total potentially dilutive securities excluded from computation of diluted loss per share	49,113,091	40,985,122	49,113,091	40,985,122

(1) The potentially dilutive effect of convertible promissory notes was computed based on conversion ratios in effect as of the respective period end dates. A portion of the convertible promissory notes issued carries a provision for a reduction in conversion price under certain circumstances, which could potentially increase the dilutive shares outstanding. Another portion of the convertible promissory notes issued carries a provision for an increase in the conversion rate under certain circumstances, which could also potentially increase the dilutive shares outstanding.

## 9. Commitments and Contingencies

### Commitments

Future minimum payments under the Company's lease obligations as of September 30, 2018 are as follows (in thousands):

Years ending December 31: (In thousands)	Capital Leases	Operating Leases	Total Lease Obligations
2018 (remaining three months)	\$ 143	\$ 2,776	\$ 2,919
2019	513	9,966	10,479
2020	199	7,675	7,874
2021	3	7,237	7,240
2022	—	7,410	7,410
Thereafter	—	3,270	3,270
Total future minimum payments	\$ 858	\$ 38,334	\$ 39,192
Less: amount representing interest	(46)		
Present value of minimum lease payments	812		
Less: current portion	(503)		
Long-term portion	\$ 309		

### Guarantor Arrangements

In November 2010, the Company entered into the FINEP Credit Facility to finance a research and development project on sugarcane-based biodiesel; see Note 4, "Debt" in Part II, Item 8 of the Annual Report on Form 10-K. The FINEP Credit Facility is guaranteed by a chattel mortgage on certain equipment of the Company. The Company's total acquisition cost for the equipment under this guarantee as of September 30, 2018 and December 31, 2017 was R\$6.0 million (US\$1.5 million and US\$1.8 million, respectively) based on exchange rates at each date.

### Contingencies

The Company has levied indirect taxes on sugarcane-based biodiesel sales that took place several years ago by Amyris Brasil Ltda. (see Note 13, "Divestiture" in Part II, Item 8 of the Annual Report on Form 10-K) to customers in Brazil, based on advice from external legal counsel. In the absence of definitive rulings from the Brazilian tax authorities on the appropriate indirect tax rate to be applied to such product sales, the actual indirect rate to be applied to such sales could differ from the rate the Company levied.

The Company and a number of the Company's current officers and directors are parties to four separate purported shareholder derivative complaints based on allegedly misleading statements and/or omissions made in connection with the Company's securities filings (the Derivative Complaints). The Derivative Complaints seek to recover, on the Company's behalf, unspecified damages purportedly sustained by the Company and also seek a series of changes to the Company's corporate governance policies, restitution to the Company from the individual defendants, and an award of attorneys' fees. Two of the Derivative Complaints were filed in the U.S. District Court for the Northern District of California (together, the Federal Derivative Cases). On December 21, 2017, the defendants filed a motion to dismiss the Federal Derivative Cases, which was granted on March 9, 2018. On March 29, 2018, the plaintiffs filed an amended complaint, and on May 4, 2018 the defendants filed a motion to dismiss the amended complaint. On July 23, 2018, the court granted defendants' motion to dismiss the amended complaint with prejudice and entered judgment in favor of the defendants. The remaining two Derivative Complaints were filed in the Superior Court for the State of California (together, the State Derivative Cases). On August 30, 2018, the parties in the State Derivative Cases filed a joint stipulation and proposed order to dismiss the State Derivative Cases without prejudice, and on September 4, 2018, the court entered an order to that effect. See Part II, Item 1, "Legal Proceedings" in this Quarterly Report on Form 10-Q for more additional information.

The Company is subject to disputes and claims that arise or have arisen in the ordinary course of business and that have not resulted in legal proceedings or have not been fully adjudicated. Such matters that may arise in the ordinary course of business are subject to many uncertainties and outcomes are not predictable with reasonable assurance and therefore an estimate of all the reasonably possible losses cannot be determined at this time. Therefore, if one or more of these legal disputes or claims resulted in settlements or legal proceedings that were resolved against the Company for amounts in excess of management's expectations, the Company's consolidated financial statements for the relevant reporting period could be materially adversely affected.

## 10. Revenue Recognition and Contract Assets and Liabilities

### Disaggregation of Revenue

The following table presents revenue by major product and service, as well as by primary geographical market, based on the location of the customer:

<b>(In thousands)</b>	<b>Three Months Ended September 30,</b>							
	<b>2018</b>				<b>2017</b>			
	<b>Renewable Products</b>	<b>Licenses and Royalties</b>	<b>Grants and Collaborations</b>	<b>Total</b>	<b>Renewable Products</b>	<b>Licenses and Royalties</b>	<b>Grants and Collaborations</b>	<b>Total</b>
United States	\$ 4,884	\$ —	\$ 626	\$ 5,510	\$ 5,873	\$ —	\$ 6,141	\$ 12,014
Europe	1,175	142	3,908	5,225	2,314	1,022	3,935	7,271
Asia	3,544	—	—	3,544	2,773	—	125	2,898
South America	36	—	551	587	36	—	1,978	2,014
Other	—	—	—	—	—	—	—	—
	<u>\$ 9,639</u>	<u>\$ 142</u>	<u>\$ 5,085</u>	<u>\$ 14,866</u>	<u>\$ 10,996</u>	<u>\$ 1,022</u>	<u>\$ 12,179</u>	<u>\$ 24,197</u>

<b>(In thousands)</b>	<b>Nine Months Ended September 30,</b>							
	<b>2018</b>				<b>2017</b>			
	<b>Renewable Products</b>	<b>Licenses and Royalties</b>	<b>Grants and Collaborations</b>	<b>Total</b>	<b>Renewable Products</b>	<b>Licenses and Royalties</b>	<b>Grants and Collaborations</b>	<b>Total</b>
United States	\$ 9,185	\$ —	\$ 6,457	\$ 15,642	\$ 8,871	\$ 2,673	\$ 15,510	\$ 27,054
Europe	6,596	18,466	11,723	36,785	5,621	1,468	9,295	16,384
Asia	5,335	—	1,000	6,335	14,242	2,633	375	17,250
South America	251	—	1,945	2,196	180	—	1,978	2,158
Other	100	—	—	100	11	—	—	11
	<u>\$ 21,467</u>	<u>\$ 18,466</u>	<u>\$ 21,125</u>	<u>\$ 61,058</u>	<u>\$ 28,925</u>	<u>\$ 6,774</u>	<u>\$ 27,158</u>	<u>\$ 62,857</u>

### Significant Revenue Agreements

In connection with significant revenue agreements (see Note 10, “Significant Revenue Agreements” in Part II, Item 8 of the Annual Report on Form 10-K), the Company recognized the following revenues for the three and nine months ended September 30, 2018 and 2017:

(In thousands)	Three Months Ended September 30,							
	2018				2017			
	Renewable Products	Licenses and Royalties	Grants and Collaborations	Total	Renewable Products	Licenses and Royalties	Grants and Collaborations	Total
DSM - related party	\$ 17	\$ (39)	\$ 1,748	\$ 1,726	\$ —	\$ 703	\$ 634	\$ 1,337
Givaudan	525	—	1,500	2,025	1,331	—	1,500	2,831
Firmenich	904	181	1,212	2,297	4,525	319	1,351	6,195
Nenter	—	—	—	—	1,678	—	—	1,678
DARPA	—	—	241	241	—	—	1,252	1,252
Subtotal revenue from significant revenue agreements	1,446	142	4,701	6,289	7,534	1,022	4,737	13,293
Revenue from all other customers	8,193	—	384	8,577	3,462	—	7,442	10,904
Total revenue from all customers	\$ 9,639	\$ 142	\$ 5,085	\$ 14,866	\$ 10,996	\$ 1,022	\$ 12,179	\$ 24,197

(In thousands)	Nine Months Ended September 30,							
	2018				2017			
	Renewable Products	Licenses and Royalties	Grants and Collaborations	Total	Renewable Products	Licenses and Royalties	Grants and Collaborations	Total
DSM - related party	\$ 17	\$ 18,248	\$ 5,611	\$ 23,876	\$ 10	\$ 703	\$ 783	\$ 1,496
Givaudan	3,710	—	4,358	8,068	1,950	—	4,500	6,450
Firmenich	1,110	218	3,698	5,026	6,178	765	4,562	11,505
Nenter	—	—	1,000	1,000	8,003	2,633	—	10,636
DARPA	—	—	5,278	5,278	—	—	6,894	6,894
Subtotal revenue from significant revenue agreements	4,837	18,466	19,945	43,248	16,141	4,101	16,739	36,981
Revenue from all other customers	16,630	—	1,180	17,810	12,784	2,673	10,419	25,876
Total revenue from all customers	\$ 21,467	\$ 18,466	\$ 21,125	\$ 61,058	\$ 28,925	\$ 6,774	\$ 27,158	\$ 62,857

### Contract Assets and Liabilities

When a contract results in revenue being recognized in excess of the amount the Company has invoiced or has the right to invoice to the customer, a contract asset is recognized. Contract assets are transferred to accounts receivable, net when the rights to the consideration become unconditional. Contract assets are presented as Unbilled Receivables on the consolidated balance sheets.

Contract liabilities consist of payments received from customers, or such consideration that is contractually due, in advance of providing the product or performing services such that control has not passed to the customer. Contract liabilities are presented as Deferred Revenue on the consolidated balance sheets.

Trade receivables related to revenue from contracts with customers are included in accounts receivable on the consolidated balance sheets, net of the allowance for doubtful accounts. Trade accounts receivable are recorded at the point of renewable product sale or in accordance with the contractual payment terms for licenses and royalties, and grants and collaborative research and development services for the amount payable by the customer to the Company for sale of goods or the performance of services.

### Contract Balances

The following table provides information about unbilled receivables, deferred revenue, and accounts receivable from contracts with customers:

(In thousands)	September 30, 2018	December 31, 2017
Unbilled receivable, current	\$ 56	\$ 9,340
Unbilled receivable, noncurrent	\$ 9,767	\$ 7,940
Deferred revenue, current	\$ 6,698	\$ 4,880
Deferred revenue, noncurrent	\$ 383 <sup>(1)</sup>	\$ 383 <sup>(1)</sup>
Accounts receivable, net	\$ 35,564	\$ 24,281

<sup>(1)</sup> As of September 30, 2018 and December 31, 2017, deferred revenue, noncurrent is presented in Other Noncurrent Liabilities in the consolidated balance sheets because of its insignificance.

Unbilled receivables relate to the Company's right to consideration from DSM for (i) minimum future royalties and (ii) performance fees. The Company's right to cash receipt for these minimum royalty amounts occurs on or before December 31, 2019. From December 31, 2017 to September 30, 2018, the combination of current and noncurrent unbilled receivables decreased by \$7.5 million as the result of invoices issued to DSM during the period.

Deferred revenue, current increased by \$1.8 million at September 30, 2018 resulting from a \$0.8 million increase upon adoption of ASC 606 on January 1, 2018 plus the net amount of collaboration and royalty revenues invoiced in excess of amounts recognized as revenue, less \$3.3 million of revenue recognized during the nine months ended September 30, 2018 that was included in deferred revenue at the beginning of the period.

#### *Remaining Performance Obligations*

The following table provides information regarding the estimated revenue expected to be recognized in the future related to performance obligations that are unsatisfied (or partially unsatisfied) based on the Company's existing agreements with customers as of September 30, 2018.

<u>(In thousands)</u>	<u>As of September 30, 2018</u>
Remaining 2018	\$ 3,592
2019	9,742
2020	7,742
2021 and thereafter	672
Total from all customers	<u>\$ 21,748</u>

In accordance with the disclosure provisions of ASC 606, the table above excludes estimated future revenues for performance obligations that are part of a contract that has an original expected duration of one year or less or a performance obligation with variable consideration that is recognized using the sales-based royalty exception for licenses of intellectual property. Additionally, approximately \$17.4 million of estimated future revenue is excluded from the table above, as that amount represents constrained variable consideration.

## **11. Related Party Transactions**

### *Related Party Debt*

See Note 4, "Debt" in Part I, Item 1 of this Quarterly Report on Form 10-Q for related party debt balances as of September 30, 2018 and December 31, 2017.

### *Related Party Accounts Receivable and Unbilled Receivables*

Related party accounts receivable and unbilled receivables as of September 30, 2018 and December 31, 2017 were as follows:

<u>(In thousands)</u>	<u>September 30, 2018</u>	<u>December 31, 2017</u>
Accounts receivable, net:		
DSM	\$ 20,419	\$ 3,483
Novvi	24	1,607
Total	120	238
	<u>\$ 20,563</u>	<u>\$ 5,328</u>
Unbilled receivable, current:		
DSM	\$ 56	\$ 9,340
Unbilled receivable, noncurrent:		
DSM	\$ 9,767	\$ 7,940

### Related Party Joint Ventures

See Note 7, "Variable-interest Entities and Unconsolidated Investments" in Part I, Item 1 of this Quarterly Report on Form 10-Q and in Part II, Item 8 of the Annual Report on Form 10-K for information about the Company's:

- Aprinova joint venture with Nikko, and
- TAB joint venture with Total

### 12. Stock-based Compensation

The Company's stock option activity and related information for the nine months ended September 30, 2018 was as follows:

	Quantity of Stock Options	Weighted- average Exercise Price	Weighted- average Remaining Contractual Life, in Years	Aggregate Intrinsic Value, in Thousands
Outstanding - December 31, 2017	1,338,367	\$ 33.40	7.7	\$ 97
Granted	4,296,337	\$ 5.18		
Exercised	(61,750)	\$ 3.68		
Forfeited or expired	(123,253)	\$ 28.18		
Outstanding - September 30, 2018	5,449,701	\$ 11.60	9.0	\$ 13,721
Vested or expected to vest after September 30, 2018	5,031,524	\$ 12.14	8.9	\$ 12,552
Exercisable at September 30, 2018	942,636	\$ 41.25	6.7	\$ 1,536

The Company's restricted stock units (RSUs) activity and related information for the nine months ended September 30, 2018 was as follows:

	Quantity of Restricted Stock Units	Weighted- average Grant- date Fair Value	Weighted- average Remaining Contractual Life, in Years
Outstanding - December 31, 2017	683,554	\$ 8.62	1.4
Awarded	4,993,022	\$ 5.38	
RSUs released	(226,129)	\$ 10.38	
RSUs forfeited	(126,355)	\$ 6.16	
Outstanding - September 30, 2018	5,324,092	\$ 5.57	1.8
Vested or expected to vest after September 30, 2018	5,065,108	\$ 5.57	1.8

Stock-based compensation expense related to options and RSUs granted to employees and non-employees during the three and nine months ended September 30, 2018 and 2017 was allocated to research and development expense and sales, general and administrative expense as follows:

(In thousands)	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Research and development	\$ 495	\$ 395	\$ 1,191	\$ 1,320
Sales, general and administrative	2,442	863	4,924	2,622
Total stock-based compensation expense	\$ 2,937	\$ 1,258	\$ 6,115	\$ 3,942

As of September 30, 2018, there was unrecognized compensation expense of \$35.0 million related to stock options and RSUs. The Company expects to recognize this expense over a weighted-average period of 3.5 years.

The fair value of employee stock options was estimated using the following weighted-average assumptions:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Expected dividend yield	—%	—%	—%	—%
Risk-free interest rate	2.8%	2.0%	2.7%	2.0%
Expected term (in years)	6.87	6.20	6.85	6.10
Expected volatility	79.1%	92.2%	79.6%	81.6%

In May 2018, shareholders approved amendments to the Company's 2010 Equity Incentive Plan (EIP) to (i) increase the number of shares of common stock available for grant and issuance thereunder by 9 million shares and (ii) increase the annual per-participant award limit thereunder to 4 million shares.

Also in May 2018, shareholders approved an amendment to the Company's 2010 Employee Stock Purchase Plan (ESPP) to increase the maximum number of shares of common stock that may be issued over the term of the ESPP by 1 million shares.

In May 2018, the Company granted its chief executive officer performance-based stock options (PSOs) to purchase 3,250,000 shares. PSOs are equity awards with the final number of PSOs that may vest determined based on the Company's performance against pre-established EBITDA milestones and Amyris stock price milestones. The EBITDA milestones are measured from the grant date through December 31, 2021, and the stock price milestones are measured from the grant date through December 31, 2022. The PSOs vest in four tranches contingent upon the achievement of both the EBITDA milestones and stock price milestones for each respective tranche, and the chief executive officer's continued employment with the Company. Over the measurement periods, the number of PSOs that may be issued and the related stock-based compensation expense that is recognized is adjusted upward or downward based upon the probability of achieving the EBITDA milestones. Depending on the probability of achieving the EBITDA milestones and stock price milestones and certification of achievement of those milestones for each vesting tranche by the Company's Board of Directors or Compensation Committee, the PSOs issued could be from zero to 3,250,000 stock options, with an exercise price of \$5.08 per share.

Stock-based compensation expense for this award is recognized using a graded-vesting approach over the service period beginning at the grant date through December 31, 2022, as the Company's management has determined that certain EBITDA milestones are probable of achievement as of September 30, 2018. The Company utilized a Monte Carlo simulation model to estimate the grant date fair value of each tranche of the award which totaled \$5.1 million. For the three and nine months ended September 30, 2018, the Company recognized \$0.3 million and \$0.4 million, respectively, of compensation expense for this award. The assumptions used to estimate the fair value of this award with performance and market vesting conditions were as follows:

<b>Stock Option Award with Performance and Market Vesting Conditions:</b>	
Fair value of the Company's common stock on grant date	\$ 5.08
Expected volatility	70%
Risk-free interest rate	2.75%
Dividend yield	0.0%

### 13. Subsequent Events

#### *Conversion of August 2013 Financing Tranche I Convertible Notes Held by Total*

On October 16, 2018, the August 2013 Financing Tranche I Convertible Notes (Tranche I Notes) held by Total reached maturity, and in accordance with terms of the Maturity Treatment Agreement between the Company and Total and the Tranche I Notes held by Total (see Note 4, "Debt" above and in Part II, Item 8 of the Annual Report on Form 10-K), the Tranche I Notes held by Total converted into 3,448,821 shares of common stock.

#### *Exercise of Temasek Funding Warrant*

On October 19, 2018, Maxwell (Mauritius) Pte Ltd (Temasek) exercised the Temasek Funding Warrant (see Note 6, "Stockholders' Deficit" above and in Part II, Item 8 of the Annual Report on Form 10-K) with respect to 1,889,986 shares of common stock underlying the Temasek Funding Warrant by means of a cashless exercise, resulting in the issuance of 1,852,585 shares of common stock to Temasek.

#### *Conversion of August 2013 Financing Tranche II Convertible Notes Held by Total*

On November 8, 2018, Total converted its August 2013 Financing Tranche II Convertible Notes (Tranche II Notes), which were scheduled to mature on January 15, 2019, into shares of common stock. In connection with such conversion, the Company agreed to pay Total future interest on the Tranche II Notes being converted up to, but excluding, the maturity date for such notes, which interest was converted by Total into common stock at the conversion price for the Tranche II Notes (see Note 4, "Debt" above and in Part II, Item 8 of the Annual Report on Form 10-K). As a result of such conversion, the Tranche II Notes held by Total converted into 2,226,105 shares of common stock.

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

*The following discussion and analysis should be read in conjunction with our condensed consolidated financial statements and the related notes that appear elsewhere in this Quarterly Report on Form 10-Q. These discussions contain forward-looking statements reflecting our current expectations that involve risks and uncertainties which are subject to safe harbors under the Securities Act of 1933, as amended (the Securities Act), and the Securities Exchange Act of 1934 (the Exchange Act). These forward-looking statements include, but are not limited to, statements concerning our strategy of achieving a significant reduction in net cash outflows in 2018 and 2019, aspects of our future operations, our future financial position, including the expected extension of debt maturities and obtaining project financing for a new manufacturing facility, expectations for our future revenues, margins and projected costs, expectations regarding demand and acceptance for our technologies, introductions of new products, growth opportunities and trends in the market in which we operate, prospects and plans and objectives of management. The words "anticipates," "believes," "estimates," "expects," "intends," "may," "plans," "projects," "will," "would" and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements, and you should not place undue reliance on our forward looking statements. These forward-looking statements involve risks and uncertainties that could cause our actual results to differ materially from those in the forward-looking statements, including, without limitation, the risks set forth in Part II, Item 1A, "Risk Factors" in this Quarterly Report on Form 10-Q, in Part I, Item 1A, "Risk Factors" in our Annual Report on Form 10-K for the fiscal year ended December 31, 2017 and in our other filings with the Securities and Exchange Commission. We do not assume any obligation to update any forward-looking statements.*

### Overview and Recent Developments

Amyris, Inc. (the Company, Amyris, we, us or our) is a leading industrial biotechnology company that applies its technology platform to engineer, manufacture and sell high performance, natural, sustainably sourced products into the Health & Wellness, Clean Beauty, and Flavor & Fragrance markets. Our proven technology platform enables us to rapidly engineer microbes and use them as catalysts to metabolize renewable, plant-sourced sugars into large volume, high-value ingredients. Our biotechnology platform and industrial fermentation process replace existing complex and expensive manufacturing processes. We have successfully used our technology to develop and produce eight distinct molecules at commercial volumes.

We believe that industrial biotechnology represents a third industrial revolution, bringing together biology and engineering to generate new, more sustainable materials to meet the growing global demand for bio-based replacements for petroleum-based and traditional animal- or plant-derived ingredients. We continue to build demand for our current portfolio of products through an extensive sales network provided by our collaboration partners that represent the leading companies in the world for our target market sectors. We also have a small group of direct sales and distributors who support our Clean Beauty market. Via our partnership model, our partners invest in the development of each molecule to bring it from the lab to commercial scale and use their extensive sales force to sell our ingredients and formulations to their customers as part of their core business. We capture long-term revenue both through the production and sale of the molecule to our partners and through royalty revenues (previously referred to as value share) from our partners' product sales to their customers.

We were founded in 2003 in the San Francisco Bay area by a group of scientists from the University of California, Berkeley. Our first major milestone came in 2005 when, through a grant from the Bill & Melinda Gates Foundation, we developed technology capable of creating microbial strains that produce artemisinic acid, which is a precursor of artemisinin, an effective anti-malarial drug. In 2008, we granted royalty-free licenses to allow Sanofi-Aventis to produce artemisinic acid using our technology. Building on our success with artemisinic acid, in 2007 we began applying our technology platform to develop, manufacture and sell sustainable alternatives to a broad range of markets.

We focused our initial development efforts primarily on the production of Biofene®, our brand of renewable farnesene, a long-chain, branched hydrocarbon molecule that we manufacture through fermentation using engineered microbes. Our farnesene derivatives are sold in more than 1,000 products as nutraceuticals, skincare products, fragrances, solvents, polymers, and lubricant ingredients. The commercialization of farnesene pushed us to create a more cost efficient, faster and accurate development process in the lab and drive manufacturing costs down. This investment has enabled our technology platform to rapidly develop microbial strains and commercialize target molecules. In 2014, we began manufacturing additional molecules for the Flavor & Fragrance industry; in 2015 we began investing to expand our capabilities to other small molecule chemical classes beyond terpenes via our collaboration with the Defense Advanced Research Projects Agency (DARPA), and in 2016 we expanded into proteins.

We have invested over \$500 million in infrastructure and technology to create microbes that produce molecules from sugar or other feedstocks at commercial scale. This platform has been used to design, build, optimize, and upscale strains producing eight distinct molecules, leading to more than 15 commercial ingredients used in over 1,000 consumer products. Our time to market for molecules has decreased from seven years to less than a year, mainly due to our ability to leverage the technology platform we have built.

Our technology platform has been in active use since 2008 and has been integrated with our commercial production since 2011, creating an organism development process that makes us an industry leader in the successful scale-up and commercialization of biotech-produced ingredients. The key performance characteristics of our platform that differentiate us include our proprietary computational tools, strain construction tools, screening and analytics tools, and advanced lab automation and data integration. Full integration of the platform with our large-scale manufacturing capability enables us to engineer precisely with the end specification and commercial production requirements guiding our developments. Our state-of-the-art infrastructure includes industry-leading strain engineering and lab automation located in Emeryville, California, pilot scale production facilities in Emeryville, California and Campinas, Brazil, a demonstration-scale facility in Campinas, Brazil and a commercial-scale production facility in Leland, North Carolina, which is owned and operated by our Aprinova joint venture to convert our Biofene into squalane and other final products.

Several years ago, we made the strategic decision to transition our business model from collaborating and commercializing molecules in low margin commodity markets to higher margin specialty markets. We began the transition by commercializing and supplying famesene-derived squalane as a cosmetic ingredient sold to formulators and distributors. We then entered into collaboration and supply agreements for the development and commercialization of molecules within the Flavor & Fragrance and Cosmetic Ingredients markets where we utilize our strain generation technology to develop molecules that meet the customer's rigorous specifications.

During this transition, we solidified the business model of partnering with our customers to create sustainable, high performing, low-cost molecules that replace an ingredient in their supply chain, commercially scale and manufacture those molecules, and share in the profits earned by our customers once our customer sells its product into these specialty markets. These three steps constitute our collaboration revenues, renewable product revenues, and royalty revenues (previously referred to as value share revenues).

During 2017, we completed several development agreements with DSM and others for new products such as Vitamin A, a human nutrition molecule and others. We plan to bring two to three new molecules a year to commercial production.

In the first half of 2017, management made the decision to monetize the use of one of our lower margin molecules, famesene, in certain fields of use (e.g., the human and animal health and nutrition field) while retaining any associated royalties. We began discussions with our partners and ultimately made the decision to license famesene to DSM for use in these fields, which we announced in November 2017. Management also made the decision to sell to DSM our subsidiary Amyris Brazil Ltda, which operated our Brotas manufacturing facility. We completed the transaction on December 28, 2017.

Brotas was built to batch manufacture one commodity product at a time (originally for high-volume production of biofuels, a business the Company has exited), which is an inefficient manufacturing process that is not suited for the high margin specialty markets in which we operate today. We currently manufacture nine specialty products and will be increasing the number of specialty products we manufacture by two to three products a year. The inefficiencies we experienced included idling the facility for two weeks at a time to prepare for the next product batch manufacture. These inefficiencies caused our cost of goods sold to be significantly higher. With the sale of Brotas, we expect that our gross margins will markedly improve due to the reduction in manufacturing costs caused by these inefficiencies. Additionally, we are currently constructing our new production facility in Brazil, which will allow for the manufacture of four products concurrently and over 10 different products annually. As part of the December 2017 sale of Brotas, we contracted with DSM for the use of Brotas to manufacture products for us to fulfill our product supply commitments to our customers until our new production facility becomes operational in late 2019. We have expanded the new facility's design to produce both our specialty ingredients portfolio and our new sweetener product.

As discussed above, on December 28, 2017, we completed the sale of Amyris Brasil, which operated our Brotas production facility, to DSM and concurrently entered into a series of commercial agreements and a credit agreement with DSM. At closing, we received \$33.0 million in cash for the capital stock of Amyris Brasil, which is subject to certain post-closing working capital adjustments and reimbursements from DSM contingent on DSM's utilization of certain Brazilian tax benefits it acquired with its purchase of Amyris Brasil. We used \$12.6 million of the cash proceeds received to repay certain indebtedness of Amyris Brasil. The total fair value of the consideration in connection with the sales agreement for Amyris Brasil was \$56.9 million and resulted in a pretax gain of \$5.7 million from continuing operations.

Concurrent with the sale of Amyris Brasil, we entered into a series of commercial agreements with DSM including (i) a license agreement to DSM of our farnesene product for DSM to use in the Vitamin E and Lubricants specialty markets; (ii) a value share agreement that DSM will pay specified royalties representing a portion of the profit on the sale of Vitamin E produced from farnesene sold under the supply agreement with Nenter & Co., Inc. (“Nenter”) assigned to DSM; (iii) a performance agreement to perform research and development to optimize farnesene for production and sale of farnesene products; and (iv) a transition services agreement where we provide finance, legal, logistics, and human resource services to support the Brotas facility under DSM ownership for a six-month period with a DSM option to extend for six additional months. At closing, DSM paid to us a nonrefundable license fee of \$27.5 million and a nonrefundable minimum royalty revenue payment (previously referred to as value share) of \$15.0 million. DSM also agreed to pay the Company nonrefundable minimum royalty amounts in 2018 and 2019. The future nonrefundable minimum annual royalty payments were determined to be fixed and determinable with a fair value of \$17.8 million, and were included as part of the total arrangement consideration subject to allocation of this overall multiple-element divestiture transaction. See Note 10, “Significant Revenue Agreements” in Part II, Item 8 of our Annual Report on Form 10-K for the fiscal year ended December 31, 2017 (the 10-K) for a full listing and details of agreements entered into with DSM. Additionally, we entered into a \$25.0 million credit agreement with DSM that we used to repay all outstanding amounts under the Guanfu Note; see Note 4, “Debt” in Part II, Item 8 of our Annual Report on Form 10-K.

In the second quarter of 2018, we successfully demonstrated our industrial process at full scale to produce a high-purity, zero calorie sweetener derived from sugar cane. The molecule we are producing from sugar cane, Reb M, is recognized as the leading natural sweetener, but when derived from the Stevia plant, is found in very limited quantities along with many impurities that leave an unacceptable taste in the mouth of the consumer. The Reb M we produce from sugar cane is more sustainable, lower cost, and has a specific technical profile that is advantaged in taste and total process economics for blends and formulations. Initial feedback on our samples has been very positive due to this unique sweetness profile and the lack of the undesired taste impact of Stevia plant sourced and other fermentation and bio transformation Reb products on the market. Our FDA Generally Regarded As Safe (GRAS) filing has been initiated and we will have commercial quantities of product produced at DSM's Brotas facility by the end of the year.

In June 2018, we and our contract manufacturer, Antibióticos de León (“ADL”), executed an amendment to our January 2018 production agreement, thereby providing us additional tank capacity at ADL's production facility in León, Spain. This amendment was necessary to provide additional, cost-effective manufacturing capability to meet higher than expected product demand from our partners. The amended agreement includes a commitment to running a certain number of batches at ADL's production facility from the period September 1, 2018 through December 31, 2019 for up to four of our products.

On June 29, 2018, we closed a \$36 million term loan with Great American Capital Partners, LLC (GACP), a subsidiary of B. Riley Capital Management, LLC, an SEC Registered Investment Advisor and wholly-owned subsidiary of B. Riley Financial, Inc. The term loan matures on July 1, 2021, subject to certain early maturity conditions. Cash proceeds from the term loan were used to pay off the Company's senior secured loan facility with Stegodon and the related party R&D Note with Total Raffinage Chimie SA. The term loan also includes an additional \$35 million accordion credit facility that provides us with another option for financing construction of a production facility, if necessary. See Note 4, "Debt" in Part I, Item 1 of this Quarterly Report on Form 10-Q for more information.

In the second quarter of 2018, we executed an agreement for a significant project consortium in Europe with the Universidade Católica Portuguesa (UCP) Porto Campus and AICEP Portugal Global (AICEP). UCP is a university system, including the leading biotech school in Portugal, and operates 15 research centers. AICEP is an independent public entity of the Government of Portugal, focused in encouraging the best foreign companies to invest in Portugal. In conjunction with this agreement, we opened a subsidiary in Porto, Portugal. The primary purpose of this subsidiary is to conduct a research and development project together with Escola Superior de Biotecnologia o Universidade Católica Portuguesa. This subsidiary will be the second R&D center of Amyris and will be responsible for certain areas of research, namely valorization of fermentation residues and wastes and the advancement of the Company's Artificial Intelligence (AI) and Informatics platform.

The overall multi-year project is valued up to approximately \$50 million including investment funding and incentives allotted across the parties involved. Amyris believes this is the largest biotechnology grant ever awarded in Portugal and one of the largest ever approved by the AICEP for commercial applications. Amyris has sole responsibility for commercialization and majority ownership of all intellectual property (IP) generated.

In the third quarter of 2018, we entered into a supply and distribution agreement for our new, sugarcane-derived, zero calorie sweetener with ASR Group, the world's largest cane sugar refiner. Also in the third quarter of 2018, we entered into a license and collaboration agreement with a subsidiary of Yifan Pharmaceutical Co., Ltd., which is one of the leading Chinese pharmaceutical companies.

### ***Sales and Revenue***

We recognize revenue from product sales, license fees and royalties, and grants and collaborations.

We have research and development collaboration arrangements for which we receive payments from our collaborators, which include The Defense Advanced Research Projects Agency (DARPA), affiliates of Koninklijke DSM N.V. (DSM), Firmenich SA (Firmenich), Givaudan International SA (Givaudan), and others. Some of our collaboration arrangements provide for advance payments to us in consideration for grants of exclusivity or research efforts that we will perform, and others require us to achieve milestones prior to receiving payments. In addition, all of our non-government partnerships include commercial terms for the supply of molecules we successfully scale-up and produce at commercial volumes, and we expect such partnerships will contribute revenues from product sales and royalties (previously referred to as value share) if and when such molecules are commercialized. See Note 10, "Revenue Recognition" in Part I, Item 1 of this Quarterly Report on Form 10-Q, and Note 10, "Significant Revenue Agreements" in Part II, Item 8 of our Annual Report on Form 10-K, for additional information.

We currently, through contract manufacturers, produce nine specialty products and are continuing to identify new opportunities to apply our technology and deliver sustainable access to key molecules. As a result, we have a pipeline that is expected to commercialize two to three new molecules each year over the coming years. We are currently finalizing the commercial terms for the molecules we expect to commercialize during the fourth quarter of 2018, including our Reb-M product that is a superior sweetener and sugar replacement for food and beverages.

As part of the DSM acquisition of our farnesene-for-Vitamin-E business, we will receive a royalty payment on all Nenter sales of Vitamin E utilizing farnesene produced and sold by DSM from our technology. DSM agreed to pay us minimum royalties totaling \$33.1 million for 2018, 2019 and 2020, the first three years of the agreement. These minimum royalty payments are creditable against future royalties due should the total royalties from Nenter not meet or exceed the minimum royalty payments.

We have several other molecules in our development pipeline with partners including DSM, Givaudan and Firmenich that we expect will contribute revenues from product sales and royalties (previously referred to as value share) if and when they are commercialized.

### Critical Accounting Policies and Estimates

Management's discussion and analysis of results of operations and financial condition are based on the Company's consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the U.S. (U.S. GAAP). We believe that the critical accounting policies described in this section are those that significantly impact our financial condition and results of operations and require the most difficult, subjective or complex judgements, often as a result of the need to make estimates about the effects of matters that are inherently uncertain. Because of this uncertainty, actual results may vary from these estimates.

Our most critical accounting estimates include:

- recognition of revenue involving arrangements with multiple revenue-generating activities; and
- the valuation of financial instruments including embedded derivatives and freestanding financial instruments such as warrants, which impact gains or losses on derivatives, the carrying value of debt, preferred stock, interest expense and deemed dividends.

For more information about our critical accounting estimates and policies, see Note 1, "Basis of Presentation and Summary of Significant Accounting Policies" in Part I, Item 1 of this Quarterly Report on Form 10-Q and Part II, Item 8 of our Annual Report on Form 10-K.

### Results of Operations

#### Revenue

<u>(In thousands)</u>	<u>Three Months Ended</u>		<u>Nine Months Ended</u>	
	<u>September 30,</u>		<u>September 30,</u>	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
Revenue				
Renewable products	\$ 9,639	\$ 10,996	\$ 21,467	\$ 28,925
Licenses and royalties	142	1,022	18,466	6,774
Grants and collaborations	5,085	12,179	21,125	27,158
Total revenue	<u>\$ 14,866</u>	<u>\$ 24,197</u>	<u>\$ 61,058</u>	<u>\$ 62,857</u>

### Three Months Ended September 30, 2018 and 2017

Total revenue decreased by 39% to \$14.9 million for the three months ended September 30, 2018, compared to the same period in 2017. The decrease was primarily due to a \$7.1 million decrease in grants and collaborations revenue and a \$1.4 million decrease in renewable products revenue.

Renewable products revenue decreased by 12% to \$9.6 million for the three months ended September 30, 2018, compared to the same period in 2017, primarily due to the assignment of certain farnesene supply agreements to DSM and discontinuing the sales of low-margin products, partly offset by a \$1.6 million increase in revenue from Biossance products.

Licenses and royalties revenue decreased by 86% to \$0.1 million for the three months ended September 30, 2018, compared to the same period in 2017, due to a license fee in 2017 from DSM for which there was no comparable revenue in 2018.

Grants and collaborations revenue decreased by 58% to \$5.1 million for the three months ended September 30, 2018, compared to the same period in 2017, primarily due to one-time revenue in 2017 upon the termination of a Braskem/Michelin agreement, and lower grant revenue from DARPA.

### Nine Months Ended September 30, 2018 and 2017

Total revenue decreased by 3% to \$61.1 million for the nine months ended September 30, 2018, compared to the same period in 2017, due to decreases in revenue from renewable products and grants and collaborations, partially offset by a substantial increase in revenue from licenses and royalties.

Renewable products revenue decreased by 26% to \$21.5 million for the nine months ended September 30, 2018, compared to the same period in 2017. The decline was primarily attributable to the assignment of certain farnesene supply agreements to DSM and discontinuing low-margin product sales, partially offset by a \$3.0 million increase in revenue from Biossance products.

Licenses and royalties revenue increased by 173% to \$18.5 million for the nine months ended September 30, 2018, compared to the same period in 2017, due to Vitamin E royalty revenues from DSM.

Grants and collaborations revenue decreased by 22% to \$21.1 million for the nine months ended September 30, 2018, compared to the same period in 2017, primarily due to no collaboration revenue in 2018 from Braskem/Michelin and Biogen and decreased grant revenue from DARPA, partially offset by an increase in collaboration revenue from DSM.

### Costs and Operating Expenses

<b>(In thousands)</b>	<b>Three Months Ended</b>		<b>Nine Months Ended</b>	
	<b>September 30,</b>		<b>September 30,</b>	
	<b>2018</b>	<b>2017</b>	<b>2018</b>	<b>2017</b>
<b>Cost and operating expenses</b>				
Cost of products sold	\$ 8,574	\$ 17,637	\$ 19,873	\$ 47,684
Research and development	16,445	15,185	50,545	44,141
Sales, general and administrative	21,026	15,454	59,972	44,253
<b>Total cost and operating expenses</b>	<b>\$ 46,045</b>	<b>\$ 48,276</b>	<b>\$ 130,390</b>	<b>\$ 136,078</b>

### Cost of Products Sold

Cost of products sold includes the costs of raw materials, labor and overhead, amounts paid to contract manufacturers, inventory write-downs resulting from applying lower of cost or net realizable value inventory adjustments, and costs related to production scale-up. Because of our product mix, our overall cost of products sold does not necessarily increase or decrease proportionately with changes in our renewable product revenues.

### Three Months Ended September 30, 2018 and 2017

Cost of products sold decreased by 51% to \$8.6 million for the three months ended September 30, 2018, compared to the same period in 2017, primarily due to the (i) December 2017 sale of our Brotas production facility to DSM, which substantially reduced our fixed production costs, (ii) the assignment of certain farnesene supply agreements to DSM with a resulting 12% decrease in renewable products revenue, and (iii) our discontinuing manufacturing of low-margin products.

*Nine Months Ended September 30, 2018 and 2017*

Cost of products sold decreased by 58% to \$19.9 million for the nine months ended September 30, 2018, compared to the same period in 2017, primarily due to (i) December 2017 sale of our Brotas production facility to DSM, which substantially reduced our fixed production costs, (ii) the assignment of certain farnesene supply agreements to DSM with a resulting 26% decrease in renewable products revenue, and (iii) our discontinuing manufacturing of low-margin products.

*Research and Development Expenses*

*Three Months Ended September 30, 2018 and 2017*

Research and development expenses increased by 8% to \$16.4 million for the three months ended September 30, 2018, compared to the same period in 2017, due to increases in headcount to support new product development and one-time costs related to product development.

*Nine Months Ended September 30, 2018 and 2017*

Research and development expenses increased by 15% to \$50.5 million for the nine months ended September 30, 2018, compared to the same period in 2017, due to increases in headcount to support new product development and one-time costs related to product development.

*Sales, General and Administrative Expenses*

*Three Months Ended September 30, 2018 and 2017*

Sales, general and administrative expenses increased by 36% to \$21.0 million for the three months ended September 30, 2018, compared to the same period in 2017, primarily due to increases in headcount to support our growth and expansion, professional services costs, and one-time costs associated with a contract termination.

*Nine Months Ended September 30, 2018 and 2017*

Sales, general and administrative expenses increased by 36% to \$60.0 million for the nine months ended September 30, 2018, compared to the same period in 2017, primarily due to increases in headcount to support our growth and expansion, and professional services costs.

***Other (Expense) Income, Net***

<b>(In thousands)</b>	<b>Three Months Ended</b>		<b>Nine Months Ended</b>	
	<b>September 30,</b>		<b>September 30,</b>	
	<b>2018</b>	<b>2017</b>	<b>2018</b>	<b>2017</b>
Other income (expense):				
Interest expense	\$ (8,658)	\$ (7,733)	\$ (25,687)	\$ (29,219)
Gain (loss) from change in fair value of derivative instruments	(25,048)	(18,728)	(64,596)	9,933
Gain (loss) upon extinguishment of derivative liability	(1,782)	16,036	75	25,489
Gain (loss) upon extinguishment of debt	—	461	(26)	(3,067)
Other income (expense), net	(1,654)	(136)	1,282	(576)
Total other income (expense), net	\$ (37,142)	\$ (10,100)	\$ (88,952)	\$ 2,560

*Three Months Ended September 30, 2018 and 2017*

Total other expense, net was \$37.1 million for the three months ended September 30, 2018, compared to total other expense, net of \$10.1 million for the same period in 2017. The \$27.0 million increase was primarily due to a \$17.8 million change from gain to loss upon extinguishment of derivative liabilities, a \$6.3 million increase in loss from change in fair value of derivative instruments, and a \$1.5 million increase in other expense, which was comprised of \$3.2 million of issuance costs incurred in connection with our August 2018 secondary offering, less a \$1.7 million mark-to-market gain on our equity investment in SweeGen.

The loss upon extinguishment of derivative liability of \$1.8 million in 2018 was due to warrant exercises and exchanges that occurred in the three months ended September 30, 2018; see Note 6, "Stockholders' Deficit" in Part I, Item 1 of this Quarterly Report on Form 10-Q for additional information.

*Nine Months Ended September 30, 2018 and 2017*

Total other expense, net was \$89.0 million for the nine months ended September 30, 2018, compared to total other income, net of \$2.6 million for the same period in 2017. The \$91.5 million change was primarily due to (i) a \$74.5 million change from gain to loss from change in fair value of derivative instruments, and (ii) a \$25.4 million change from gain to loss upon extinguishment of derivative liabilities. These increases in loss were partly offset by (i) a \$3.5 million decrease in interest expense that resulted from a decrease in average debt balances, (ii) a \$3.0 million decrease in loss upon extinguishment of debt, and (iii) a \$1.9 million change from other expense to other income, which was comprised of a \$3.5 million mark-to-market gain related to our equity investment in SweeGen, partially offset by \$3.2 million of issuance costs incurred in connection with our August 2018 secondary offering

The loss from change in fair value of derivative instruments for the nine months ended September 30, 2018 was the result of a significant increase in derivative instruments issued, and a 112% increase in our stock price during the nine months ended September 30, 2018.

***(Provision for) Benefit from Income Taxes***

<b><u>(In thousands)</u></b>	<b><u>Three Months Ended September 30,</u></b>		<b><u>Nine Months Ended September 30,</u></b>	
	<b><u>2018</u></b>	<b><u>2017</u></b>	<b><u>2018</u></b>	<b><u>2017</u></b>
(Provision for) benefit from income taxes	\$ —	\$ 318	\$ —	\$ 49

*Three Months Ended September 30, 2018 and 2017*

For the three months ended September 30, 2018, we recorded a provision for income taxes of zero, and for the three months ended September 30, 2017, we recorded a benefit from income taxes of \$318,000. The benefit for the three months ended September 30, 2017 was comprised of an accrual of Brazilian withholding tax on intercompany interest, offset by an income tax benefit in continuing operations related to foreign exchange movement in other comprehensive income. No additional provision for income taxes has been made, net of the valuation allowance, due to cumulative losses since the commencement of operations.

*Nine Months Ended September 30, 2018 and 2017*

For the nine months ended September 30, 2018, we recorded a provision for income taxes of zero, and for the nine months ended September 30, 2017, we recorded a benefit from income taxes of \$49,000. The benefit for the nine months ended September 30, 2017 was comprised of an accrual of Brazilian withholding tax on intercompany interest, offset by an income tax benefit in continuing operations related to foreign exchange movement in other comprehensive income. No additional provision for income taxes has been made, net of the valuation allowance, due to cumulative losses since the commencement of operations.

**Liquidity and Capital Resources**

<b><u>(In thousands)</u></b>	<b><u>September 30, 2018</u></b>	<b><u>December 31, 2017</u></b>
Working capital deficit, excluding cash and cash equivalents and short-term investments	\$ (105,586)	\$ (59,598)
Cash and cash equivalents	\$ 19,045	\$ 57,059
Debt and capital lease obligations	\$ 171,929	\$ 166,318
Accumulated deficit	\$ (1,367,235)	\$ (1,206,767)

<b><u>(In thousands)</u></b>	<b><u>Nine Months Ended September 30,</u></b>	
	<b><u>2018</u></b>	<b><u>2017</u></b>
Net cash (used in) provided by:		
Operating activities	\$ (87,953)	\$ (102,652)
Investing activities	\$ (6,362)	\$ 2,512
Financing activities	\$ 54,666	\$ 88,744

*Liquidity.* We have incurred significant operating losses since our inception, and we expect to continue to incur losses and negative cash flows from operations through at least the next 12 months following issuance of the financial statements. As of September 30, 2018, we had negative working capital, excluding cash and cash equivalents and short-term investments, of \$105.6 million, (compared to negative working capital (excluding cash) of \$59.6 million as of December 31, 2017), an accumulated deficit of \$1.4 billion, and cash and cash equivalents of \$19.0 million (compared to \$57.1 million as of December 31, 2017).

As of September 30, 2018, our debt (including related party debt), net of deferred discount and issuance costs of \$21.5 million, totaled \$171.1 million, of which \$108.9 million is classified as current. However, \$23.3 million of current maturities was converted into common stock in October and November 2018, thereby reducing our short-term maturities by \$23.3 million; see Note 13, "Subsequent Events" in Part I, Item 1 of this Quarterly Report on Form 10-Q for additional information. The Company's debt service obligations through November 30, 2019 are \$111.4 million (excluding \$25.0 million of principal that will be mandatorily converted into common stock upon maturity), including \$15.7 million of anticipated cash interest payments. Our debt agreements contain various covenants, including certain restrictions on our business that could cause us to be at risk of defaults, such as restrictions on additional indebtedness and cross-default clauses. A failure to comply with the covenants, or cure non-compliance or obtain waivers for covenants violations, and other provisions of our debt instruments, including any failure to make a payment when required, would generally result in events of default under such instruments, which could permit acceleration of such indebtedness. If such indebtedness is accelerated, it would generally also constitute an event of default under our other outstanding indebtedness, permitting acceleration of a substantial portion of our outstanding indebtedness. During the three months ended September 30, 2018, we did not meet certain covenants with one lender and obtained waivers; see Note 4, "Debt" in Part I, Item 1 of this Quarterly Report on Form 10-Q for additional information. However, there is no guarantee that we will not violate these covenants in the future or be able to obtain waivers for future violations.

Our consolidated financial statements as of and for the three months ended September 30, 2018 have been prepared on the basis that we will continue as a going concern, which contemplates the realization of assets and satisfaction of liabilities in the normal course of business. Due to the factors described above, there is substantial doubt about our ability to continue as a going concern within one year after the date that these financial statements are issued. Our ability to continue as a going concern will depend, in large part, on our ability to begin achieving positive cash flows from operations within the next 12 months, to extend existing debt maturities, which is uncertain. The financial statements do not include any adjustments that might result from the outcome of this uncertainty, which could have a material adverse effect on our financial condition. In addition, if we are unable to continue as a going concern, we may be unable to meet our obligations under our existing debt facilities, which could result in an acceleration of our obligation to repay all amounts outstanding under those facilities, and we may be forced to liquidate our assets. In such a scenario, the values we receive for our assets in liquidation or dissolution could be significantly lower than the values reflected in our financial statements.

Our operating plan for the next 12 months contemplates a significant reduction in our net cash outflows, resulting from (i) revenue growth from sales of existing and new products such as Reb-M with positive gross margins, (ii) reduced production costs as a result of anticipated efficiencies, and (iii) cash inflows from grants, collaborations and license fees.

If we are unable to generate sufficient cash contributions from product sales, licenses and royalties, and payments from existing and new collaboration partners, and new financing commitments due to contractual restrictions and covenants, we may need to obtain additional funding from equity or debt financings, which may not occur in a timely manner or on reasonable terms, if at all, agree to burdensome covenants, grant further security interests in our assets, enter into collaboration and licensing arrangements that require us to relinquish commercial rights, or grant licenses on terms that are not favorable.

If we do not achieve our planned operating results, our ability to continue as a going concern would be jeopardized and we may need to take the following actions to support our liquidity needs during the next 12 months:

- Shift focus to existing products and customers with significantly reduced investment in new product and commercial development efforts;
- Reduce expenditures for third party contractors, including consultants, professional advisors and other vendors;
- Reduce or delay uncommitted capital expenditures, including non-essential facility and lab equipment, and information technology projects; and
- Closely monitor our working capital position with customers and suppliers, as well as suspend operations at pilot plants and demonstration facilities.

Implementing this plan could have a negative impact on our ability to continue our business as currently contemplated, including, without limitation, delays or failures in our ability to:

- Achieve planned production levels;
- Develop and commercialize products within planned timelines or at planned scales; and
- Continue other core activities.

We expect to fund operations for the foreseeable future with cash and investments currently on hand, cash inflows from collaborations, grants, product sales, license and royalties and equity and debt financings, to the extent necessary. Some of our research and development collaborations are subject to risk that we may not meet milestones. Future equity and debt financings, if needed, are subject to the risk that we may not be able to secure financing in a timely manner or on reasonable terms, if at all. Our planned working capital and capital expenditure needs for the remainder of 2018 are dependent on significant inflows of cash from renewable product sales, license and royalties and existing collaboration partners, as well as additional funding from new collaborations.

For additional information, see the following Notes in “Notes to Condensed Consolidated Financial Statements” included in Part I, Item 1 of this Quarterly Report on Form 10-Q and/or in “Notes to Consolidated Financial Statements” included in Part II, Item 8 of the 10-K:

- Note 4, "Debt"
- Note 5, "Mezzanine Equity"
- Note 6, "Stockholders' Deficit"

#### ***Cash Flows during the Nine Months Ended September 30, 2018 and 2017***

##### ***Cash Flows from Operating Activities***

Our primary uses of cash from operating activities are costs related to the production and sale of our products and personnel-related expenditures, offset by cash received from renewable product sales, licenses and royalties, and grants and collaborations.

For the nine months ended September 30, 2018, net cash used in operating activities was \$88.0 million, consisting primarily of a \$158.3 million net loss, partially offset by \$82.7 million of favorable non-cash adjustments that were primarily comprised of a \$64.6 million loss on change in fair value of derivative instruments, \$10.6 million of debt discount amortization, \$6.1 million of stock-based compensation and \$4.0 million of depreciation and amortization on property, plant and equipment. Additionally, there was a \$12.4 million decrease in working capital.

For the nine months ended September 30, 2017, net cash used in operating activities was \$102.7 million, consisting primarily of a \$70.6 million net loss, a \$19.4 million decrease in working capital and \$12.6 million of unfavorable non-cash adjustments primarily comprised of \$35.1 million of non-cash gains in connection with derivative instruments, partially offset by \$10.1 million of debt discount amortization, \$8.1 million of depreciation and amortization on property, plant and equipment, and \$3.9 million of stock-based compensation.

##### ***Cash Flows from Investing Activities***

Our investing activities consist primarily of capital expenditures and changes in short-term investments.

For the nine months ended September 30, 2018, net cash used in investing activities was \$6.4 million, primarily comprised of \$6.4 million of property, plant and equipment purchases, which included \$2.1 million of capitalized internal labor costs required to automate, integrate and ready certain laboratory and plant equipment for its intended use.

For the nine months ended September 30, 2017, net cash provided by investing activities was \$2.5 million, which was comprised of a \$3.0 million decrease in short-term investments, partly offset by \$0.5 million of property, plant and equipment purchases.

##### ***Cash Flows from Financing Activities***

For the nine months ended September 30, 2018, net cash provided by financing activities was \$54.7 million, primarily due to \$60.5 million of net proceeds from the issuance of common stock upon the exercise of warrants and \$35.1 million of net proceeds from debt issuance, partly offset by \$42.0 million of debt principal payments.

For the nine months ended September 30, 2017, net cash provided by financing activities was \$88.7 million, primarily due to \$101.4 million of net proceeds from the issuance of convertible preferred stock and \$14.0 million of net proceeds from debt issuance, partly offset by \$26.7 million of debt principal payments.

##### ***Off-Balance Sheet Arrangements***

We did not have during the periods presented, and we do not currently have, any material off-balance sheet arrangements, as defined under the rules of the Securities and Exchange Commission, such as relationships with unconsolidated entities or financial partnerships, which are often referred to as structured finance or special purpose entities, established for the purpose of facilitating financing transactions that are not required to be reflected on our condensed consolidated financial statements.

### Contractual Obligations

The following is a summary of our contractual obligations as of September 30, 2018:

#### Year Ended December 31,

<b>(In thousands)</b>	<b>Total</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>Thereafter</b>
Principal payments on debt (1)	\$ 169,735	\$ 625	\$ 95,035	\$ 3,827	\$ 55,839	\$ 12,251	\$ 2,158
Interest payments on debt (2)	31,792	5,398	11,374	7,588	5,860	1,165	407
Operating leases	38,334	2,776	9,966	7,675	7,237	7,410	3,270
Principal payments on capital leases	812	130	484	195	3	—	—
Interest payments on capital leases	46	13	29	4	—	—	—
Purchase obligations (3)	15,738	650	2,436	12,652	—	—	—
<b>Total</b>	<b>\$ 256,457</b>	<b>\$ 9,592</b>	<b>\$ 119,324</b>	<b>\$ 31,941</b>	<b>\$ 68,939</b>	<b>\$ 20,826</b>	<b>\$ 5,835</b>

- (1) Principal payments on debt shown above include a total of \$25.0 million in 2018 and 2019 subject to a Maturity Treatment Agreement, which will be converted to common stock at maturity, subject to there being no default under the terms of the debt.
- (2) Does not include any obligations related to make-whole interest or down-round provisions. The fixed interest rates are more fully described in Note 4, "Debt" in Part I, Item 1 of this Quarterly Report on Form 10-Q and Part II, Item 8 of the 10-K.
- (3) Purchase obligations are comprised of noncancelable contractual obligations.

#### Recently Issued Accounting Standards Not Yet Adopted

See Note 1, "Basis of Presentation and Summary of Significant Accounting Policies" in Part I, Item 1 of this Quarterly Report on Form 10-Q for a discussion of recently issued accounting standards not yet adopted.

### ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

The market risk inherent in our market risk sensitive instruments and positions is the potential loss arising from adverse changes in: commodity market prices, foreign currency exchange rates and interest rates as described below.

#### *Interest Rate Risk*

Our exposure to market risk for changes in interest rates relates primarily to our outstanding debt obligations, including embedded derivatives therein. We generally invest our cash in accounts and instruments with short maturities or with frequent interest reset terms. Accordingly, our interest income fluctuates with short-term market conditions. As of September 30, 2018, our investment portfolio consisted of certificates of deposit, which are highly liquid. Due to the short-term nature of our investment portfolio, we do not believe that an immediate 10% increase in interest rates would have a material effect on the fair value of our portfolio. Since we believe we have the ability to liquidate our investment portfolio, we expect that our operating results or cash flows would not be materially affected by a sudden change in market interest rates on the portfolio.

As of September 30, 2018, 81% of our outstanding debt is in fixed rate instruments. The remaining 19% of our outstanding debt is comprised of variable-rate loans under the GACP secured term loan facility, for which the interest rate is based on the U.S. prime rate, subject to a rate floor (see Note 4, "Debt" in Part 1, Item 1 of this Quarterly Report on Form 10-Q for additional information). As a result, changes in interest rates could affect interest expense and payments in relation to that component of our debt.

In addition, changes in interest rates may significantly affect the fair value of our derivative liabilities (see Note 3, "Fair Value Measurement" in Part 1, Item 1 of this Quarterly Report on Form 10-Q).

#### *Foreign Currency Risk*

Most of our sales contracts are denominated in U.S. dollars, and therefore our revenues are not currently subject to significant foreign currency risk.

The functional currency of our consolidated Brazilian subsidiary is the local currency (Brazilian real), in which recurring business transactions occur. We do not use currency exchange contracts as hedges against our investment in that subsidiary.

Our permanent investment in Brazil was \$17.8 million as of September 30, 2018 (\$17.8 million as of December 31, 2017), using the exchange rate at each date. A hypothetical 10% adverse change in Brazilian real exchange rates would have had an adverse impact to Other Comprehensive Loss of \$1.8 million as of September 30, 2018 (\$1.8 million as of December 31, 2017).

We have also evaluated foreign currency exposure in relation to our other non-U.S. Dollar denominated assets and liabilities and determined that there would be an immaterial effect on our results of operations from 10% exchange rate fluctuations between those currencies and the U.S. Dollar.

### ITEM 4. CONTROLS AND PROCEDURES

#### *Disclosure Controls and Procedures*

Under the rules of the Securities and Exchange Commission (the SEC), "disclosure controls and procedures" (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934 (the Exchange Act)) are controls and other procedures that are designed to ensure that information required to be disclosed in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the rules and forms of the SEC. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by us in our reports that we file or submit under the Exchange Act is accumulated and communicated to our management, including our Chief Executive Officer (CEO) and Chief Financial Officer (CFO), as appropriate, to allow timely decisions regarding required disclosure.

At September 30, 2018, our management, with the participation of our CEO and CFO, evaluated the effectiveness of our disclosure controls and procedures. Based on that evaluation, our management, including our CEO and CFO, concluded that our disclosure controls and procedures were not effective as of September 30, 2018. This conclusion was based on the material weakness in our internal control over financial reporting described in Part II, Item 9A "Controls and Procedures" of our Annual Report on Form 10-K for the fiscal year ended December 31, 2017 (the 10-K). The material weakness has not been remediated as of September 30, 2018.

A material weakness is a deficiency, or combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of the company's annual or interim consolidated financial statements will not be prevented or detected on a timely basis. If not remediated, the material weakness in our internal control over financial reporting described in the 10-K could result in a material misstatement of our annual or interim consolidated financial statements that would not be prevented or detected on a timely basis.

#### ***Changes in Internal Control over Financial Reporting***

During the fiscal quarter ended September 30, 2018, having completed our assessment and analysis of key control deficiencies during the previous quarter, we continued to implement additional review controls over routine transactions and more robust review procedures over our more complex and non-routine transactions. We continue to address and supplement our resource needs with qualified personnel possessing the appropriate level of technical accounting expertise and we continue to make progress in addressing the material weakness in our internal control over financial reporting described in the 10-K. Otherwise, there were no changes in our internal control over financial reporting during the fiscal quarter ended September 30, 2018 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting. We are taking further actions to remediate the material weakness in our internal control over financial reporting and will report on those actions in upcoming Quarterly and Annual Reports on Form 10-Q and 10-K, respectively.

#### ***Limitations on the Effectiveness of Controls and Procedures***

Our management, including our CEO and CFO, does not expect that our disclosure controls and procedures or our internal control over financial reporting will prevent or detect all errors and all fraud. A control system, no matter how well-designed and operated, can provide only reasonable, not absolute, assurance that the control system's objectives will be met. The design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Further, because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that misstatements due to error or fraud will not occur or that all control issues and instances of fraud, if any, have been detected. 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. Projections of any evaluation of the effectiveness of controls to future periods are subject to risks. Over time, controls may become inadequate because of changes in conditions or deterioration in the degree of compliance with policies or procedures.

## PART II

### ITEM 1. LEGAL PROCEEDINGS

On April 20, 2017, a securities class action complaint (the Securities Class Action Complaint) was filed against the Company and its CEO, John G. Melo, and CFO, Kathleen Valiasek, in the U.S. District Court for the Northern District of California (Case No. 3:17-cv-02210-WHO). The Securities Class Action Complaint sought unspecified damages on behalf of a purported class that would comprise all individuals who acquired the Company's common stock between March 2, 2017 and April 17, 2017. The Securities Class Action Complaint alleged securities law violations based on statements made by the Company in its earnings press release issued on March 2, 2017 and Form 12b-25 filed with the Securities and Exchange Commission on April 3, 2017. On September 21, 2017, an order of dismissal was entered on the plaintiff's notice of voluntary dismissal without prejudice.

Subsequent to the filing of the Securities Class Action Complaint, four separate purported shareholder "derivative" complaints were filed based on substantially the same facts as the Securities Class Action Complaint (the Derivative Complaints). The Derivative Complaints named Amyris, Inc. as a nominal defendant and named a number of the Company's then-current officers and directors as additional defendants. The lawsuits seek to recover, on the Company's behalf, unspecified damages purportedly sustained by the Company in connection with allegedly misleading statements and/or omissions made in connection with the Company's securities filings. The Derivative Complaints also seek a series of changes to the Company's corporate governance policies, restitution to the Company from the individual defendants, and an award of attorneys' fees. Two of the Derivative Complaints were filed in the U.S. District Court for the Northern District of California (together, the Federal Derivative Cases): Bonner v. John Melo, et al., Case No. 4:17-cv-04719, filed August 15, 2017, and Goldstein v. John Melo, et al., Case No. 3:17-cv-04927, filed on August 24, 2017. On September 19, 2017, an order was entered consolidating the Federal Derivative Cases into a single consolidated action, captioned: In re Amyris, Inc., Shareholder Derivative Litigation, Lead Case No. 2:15-cv-04719, and ordering the plaintiffs to file a consolidated complaint or designate an operative complaint by November 3, 2017. On November 3, 2017, the plaintiffs in the Federal Derivative Cases filed a Notice of Designation of Operative Complaint, designating the complaint filed in the Bonner case as the operative complaint. On December 21, 2017, the defendants filed a motion to dismiss the Federal Derivative Cases; and on March 9, 2018, the Court granted defendants' motion to dismiss. On March 29, 2018, the plaintiffs filed an Amended Complaint with the Court. On May 4, 2018, the defendants filed a motion to dismiss the Amended Complaint; and on July 23, 2018, the Court granted defendants' motion to dismiss the amended complaint with prejudice and entered judgment in favor of the defendants. The remaining two Derivative Complaints were filed in the Superior Court for the State of California (together, the State Derivative Cases): Gutierrez v. John G. Melo, et al., Case No. BC 665782, filed on June 20, 2017, in the Superior Court for the County of Los Angeles, and Soleimani v. John G. Melo, et al., Case No. RG 17865966, filed on June 29, 2017, in the Superior Court for the County of Alameda. On August 31, 2017, the Gutierrez case was transferred to the Superior Court for the State of California, County of Alameda and assigned a case number, RG17876383. On August 30, 2018, the parties in the State Derivative Cases filed a joint stipulation and proposed order to dismiss the State Derivative Cases without prejudice, and on September 4, 2018, the court entered an order to that effect.

### ITEM 1A. RISK FACTORS

The risks described in Part I, Item 1A, "Risk Factors" in our Annual Report on Form 10-K for the fiscal year ended December 31, 2017 (the 10-K) could materially and adversely affect our business, financial condition and results of operations, and the trading price of our common stock could decline. These risk factors do not identify all risks that we face; our operations could also be affected by factors that are not presently known to us or that we currently consider to be immaterial to our operations. Due to risks and uncertainties, known and unknown, our past financial results may not be a reliable indicator of future performance, and historical trends should not be used to anticipate results or trends in future periods. The "Risk Factors" section of the 10-K remains current in all material respects.

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

On August 17, 2018 and August 20, 2018, we issued warrants to purchase an aggregate of 12,097,164 shares of our common stock (the August 2018 Warrants) to Foris Ventures, LLC, Vivo Capital Fund VIII, L.P. and Vivo Capital Surplus Fund VIII, L.P., in exchange for such holders exercising for cash certain of their outstanding warrants to purchase shares of our common stock, representing an aggregate of 10,452,504 shares issued and proceeds to the Company of \$46.0 million, and surrendering certain of their other outstanding warrants to purchase shares of our common stock, which were not then exercisable for any shares, for cancellation, pursuant to warrant exercise agreements (the Warrant Exercise Agreements) entered into with such holders. The August 2018 Warrants have an exercise price of \$7.52 per share and a term of 21 months from the date of issuance, do not contain any non-standard anti-dilution protection, only permit exercise after the six-month anniversary of issuance, and only permit "cashless" or "net" exercise after such time to the extent that there is not an effective registration statement covering the resale of the shares of common stock issuable upon exercise. See Note 6, "Stockholders' Deficit" in Part I, Item 1 of this Quarterly Report on Form 10-Q for additional information.

B. Riley FBR, Inc. acted as our advisor in connection with the issuance of the August 2018 Warrants. The August 2018 Warrants were issued in private placements pursuant to the exemption from registration under Section 4(a)(2) of the Securities Act of 1933, as amended (the Securities Act), and Regulation D promulgated under the Securities Act. The holders of the August 2018 Warrants are existing stockholders and are affiliated with members of our Board of Directors: Foris Ventures, LLC, which acquired August 2018 Warrants to purchase 4,877,386 shares of our common stock, is affiliated with director John Doerr; and Vivo Capital Fund VIII, L.P. and Vivo Capital Surplus Fund VIII, L.P., which acquired August 2018 Warrants to purchase an aggregate of 7,219,778 shares of our common stock, are affiliated with director Frank Kung. The holders acquired the August 2018 Warrants for investment purposes only and without intent to resell, were able to fend for themselves in these transactions, and are accredited investors as defined in Rule 501 of Regulation D promulgated under Section 3(b) of the Securities Act, and appropriate restrictions were set forth in the warrant exercise agreements and the August 2018 Warrants. These holders had adequate access, through their relationships with us, to information about us.

### **ITEM 3. DEFAULTS UPON SENIOR SECURITIES**

None.

### **ITEM 5. OTHER INFORMATION**

#### ***Loan and Security Agreement Amendment***

On November 14, 2018, we entered into an amendment to the LSA (see Note 4, "Debt" in Part I, Item 1 of this Quarterly Report on Form 10-Q) with GACP Finance Co., LLC. Pursuant to the amendment, (i) the minimum revenue requirement in the LSA for the two fiscal quarters ending December 31, 2018 was reduced, (ii) the interest rate for the loans under the LSA was increased to the sum of (i) the greater of (A) the prime rate as reported in the Wall Street Journal and (B) 4.0%, plus (ii) 8.25%, (iii) the prepayment charge for the loans under the LSA was increased to (A) if the prepayment occurs prior to June 29, 2019, the sum of (x) 3% of the amount being prepaid plus (y) all required remaining scheduled interest payments which would have been due on the amount being prepaid through June 28, 2019, (B) if the prepayment occurs on or after June 29, 2019 and prior to June 29, 2020, 2% of the amount being prepaid and (C) if the prepayment occurs on or after June 29, 2020 and prior to June 29, 2021, 1% of the amount being prepaid and (iv) the minimum liquidity requirement in the LSA was increased by \$5.0 million.

ITEM 6. EXHIBITS

Exhibit No.	Description
4.01	<a href="#">Common Stock Purchase Warrant issued August 17, 2018 by registrant to Foris Ventures, LLC</a>
4.02	<a href="#">Common Stock Purchase Warrant issued August 17, 2018 by registrant to Vivo Capital Fund VIII, L.P.</a>
4.03	<a href="#">Common Stock Purchase Warrant issued August 17, 2018 by registrant to Vivo Capital Surplus Fund VIII, L.P.</a>
4.04	<a href="#">Amendment, dated August 17, 2018, to Common Stock Purchase Warrant issued May 11, 2017 by registrant to Foris Ventures, LLC</a>
4.05	<a href="#">Amendment, dated August 17, 2018, to Common Stock Purchase Warrant issued May 11, 2017 by registrant to Foris Ventures, LLC</a>
4.06	<a href="#">Amendment, dated August 17, 2018, to Common Stock Purchase Warrant issued August 3, 2017 by registrant to Vivo Capital Fund VIII, L.P.</a>
4.07	<a href="#">Amendment, dated August 17, 2018, to Common Stock Purchase Warrant issued August 3, 2017 by registrant to Vivo Capital Surplus Fund VIII, L.P.</a>
4.08	<a href="#">Common Stock Purchase Warrant issued August 20, 2018 by registrant to Vivo Capital Fund VIII, L.P.</a>
4.09	<a href="#">Common Stock Purchase Warrant issued August 20, 2018 by registrant to Vivo Capital Surplus Fund VIII, L.P.</a>
10.01	<a href="#">Warrant Exercise Agreement, dated August 17, 2018, between registrant and Foris Ventures, LLC</a>
10.02	<a href="#">Warrant Exercise Agreement, dated August 17, 2018, between registrant and Vivo Capital Fund VIII, L.P.</a>
10.03	<a href="#">Warrant Exercise Agreement, dated August 17, 2018, between registrant and Vivo Capital Surplus Fund VIII, L.P.</a>
10.04	<a href="#">Amendment No. 1, dated August 24, 2018, to the Loan and Security Agreement, dated June 29, 2018, by and among registrant, certain of registrant's subsidiaries and GACP Finance Co., LLC, as administrative agent and lender</a>
31.01	<a href="#">Certification of Chief Executive Officer pursuant to Securities Exchange Act Rules 13a-14(c) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002</a>
31.02	<a href="#">Certification of Chief Financial Officer pursuant to Securities Exchange Act Rules 13a-14(c) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002</a>
32.01*	<a href="#">Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002</a>
32.02*	<a href="#">Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002</a>
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

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

## SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this Quarterly Report on Form 10-Q to be signed on its behalf by the undersigned, thereunto duly authorized.

AMYRIS, INC.

By: /s/ John G. Melo  
John G. Melo  
President and Chief Executive Officer  
*(Principal Executive Officer)*  
November 15, 2018

By: /s/ Kathleen Valiasek  
Kathleen Valiasek  
Chief Financial Officer  
*(Principal Financial Officer)*  
November 15, 2018

## AMENDMENT TO COMMON STOCK PURCHASE WARRANT

This Amendment to Common Stock Purchase Warrant (this "Amendment") is made and entered into as of August 17, 2018, by and between Amyris, Inc., a Delaware corporation (the "Company"), and Foris Ventures, LLC (the "Holder").

## RECITALS

**WHEREAS**, on May 11, 2017, the Company issued to the Holder a Common Stock Purchase Warrant (the "Cash Warrant"), which Cash Warrant is currently exercisable for 4,877,386 shares of the Company's common stock, par value \$0.0001 per share (without regard to any limitations on exercise thereof), at an exercise price of \$4.40 per share.

**WHEREAS**, the Company and the Holder desire to amend the Cash Warrant as set forth herein.

**WHEREAS**, pursuant to Section 5(l) of the Cash Warrant, the Cash Warrant may be amended with the written consent of the Company and the Holder.

**NOW, THEREFORE**, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereby agree as follows:

1. **Amendment of Section 2(e) of the Cash Warrant.** Section 2(e) of the Cash Warrant is hereby deleted in its entirety and replaced with the following:
    - e) [RESERVED]
  2. **Amendment of Section 3(c) of the Cash Warrant.** Section 3(c) of the Cash Warrant is hereby deleted in its entirety and replaced with the following:
    - c) **Subsequent Rights Offerings.** In addition to any adjustments pursuant to Section 3(a) above, if at any time subsequent to the Original Issue Date but prior to the date the Corporation obtains the Stockholder Approval the Company grants, issues or sells any Common Stock Equivalents or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of shares of Common Stock (the "Purchase Rights"), then each Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could have acquired if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on exercise hereof) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the grant, issue or sale of such Purchase Rights.
  3. **Amendment of Section 3(d) of the Cash Warrant.** Section 3(d) of the Cash Warrant is hereby deleted in its entirety and replaced with the following:
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d ) **Pro Rata Distributions.** During such time as this Warrant is outstanding, if the Company shall declare or make any dividend or other distribution of its assets (or rights to acquire its assets) to holders of shares of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property or options by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction, but excluding any dividend that results in adjustment to the Conversion Price pursuant to Section 3(a) above) (a "Distribution"), at any time after the issuance of this Warrant, then, in each such case, the Holder shall be entitled to participate in such Distribution to the same extent that the Holder would have participated therein if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on exercise hereof) immediately before the date of which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the participation in such Distribution.

4. **Full Force and Effect.** Except as expressly modified by this Amendment, the terms of the Cash Warrant shall remain in full force and effect.
5. **Integration.** This Amendment and the Cash Warrant constitute the entire agreement and understanding of the parties with respect to the subject matter hereof, and supersede all prior understandings and agreements, whether oral or written, between or among the parties hereto with respect to the specific subject matter hereof.
6. **Counterparts; Facsimile.** This Amendment may be executed in one (1) or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. This Amendment may be executed and delivered by facsimile, or by email in portable document format (.pdf), and delivery of any signature page by such method will be deemed to have the same effect as if the original signature had been delivered to the other party.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the parties hereto have executed this Amendment as of the date first above written.

**AMYRIS, INC.**

By: /s/ Kathleen Valiasek  
Name: Kathleen Valiasek  
Title: Chief Financial Officer

[Signature Page to Foris Cash Warrant Amendment]

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IN WITNESS WHEREOF, the parties hereto have executed this Amendment as of the date first above written.

**FORIS VENTURES, LLC**

By: /s/ Barbara Hager  
Name: Barbara Hager  
Title: Manager

[Signature Page to Foris Cash Warrant Amendment]

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**AMENDMENT TO COMMON STOCK PURCHASE WARRANT**

This Amendment to Common Stock Purchase Warrant (this "Amendment") is made and entered into as of August 17, 2018, by and between Amyris, Inc., a Delaware corporation (the "Company"), and Foris Ventures, LLC (the "Holder").

**RECITALS**

**WHEREAS**, on May 11, 2017, the Company issued to the Holder a Common Stock Purchase Warrant (the "Dilution Warrant"), which Dilution Warrant is currently exercisable for 2,106,217 shares of the Company's common stock, par value \$0.0001 per share (without regard to any limitations on exercise thereof), at an exercise price of \$0.0015 per share.

**WHEREAS**, the Company and the Holder desire to amend the Dilution Warrant as set forth herein.

**WHEREAS**, pursuant to Section 5(l) of the Dilution Warrant, the Dilution Warrant may be amended with the written consent of the Company and the Holder.

**NOW, THEREFORE**, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereby agree as follows:

1. **Amendment of Section 2(e) of the Dilution Warrant.** Section 2(e) of the Dilution Warrant is hereby deleted in its entirety and replaced with the following:
    - e) [RESERVED]
  2. **Amendment of Section 3(c) of the Dilution Warrant.** Section 3(c) of the Dilution Warrant is hereby deleted in its entirety and replaced with the following:
    - c ) Subsequent Rights Offerings. In addition to any adjustments pursuant to Section 3(a) above, if at any time subsequent to the Original Issue Date but prior to the date the Corporation obtains the Stockholder Approval the Company grants, issues or sells any Common Stock Equivalents or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of shares of Common Stock (the "Purchase Rights"), then each Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could have acquired if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on exercise hereof) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the grant, issue or sale of such Purchase Rights.
  3. **Amendment of Section 3(d) of the Dilution Warrant.** Section 3(d) of the Dilution Warrant is hereby deleted in its entirety and replaced with the following:
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d ) Pro Rata Distributions. During such time as this Warrant is outstanding, if the Company shall declare or make any dividend or other distribution of its assets (or rights to acquire its assets) to holders of shares of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property or options by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction, but excluding any dividend that results in adjustment to the Conversion Price pursuant to Section 3(a) above) (a "Distribution"), at any time after the issuance of this Warrant, then, in each such case, the Holder shall be entitled to participate in such Distribution to the same extent that the Holder would have participated therein if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on exercise hereof) immediately before the date of which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the participation in such Distribution.

4. **Full Force and Effect.** Except as expressly modified by this Amendment, the terms of the Dilution Warrant shall remain in full force and effect.
5. **Integration.** This Amendment and the Dilution Warrant constitute the entire agreement and understanding of the parties with respect to the subject matter hereof, and supersede all prior understandings and agreements, whether oral or written, between or among the parties hereto with respect to the specific subject matter hereof.
6. **Counterparts; Facsimile.** This Amendment may be executed in one (1) or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. This Amendment may be executed and delivered by facsimile, or by email in portable document format (.pdf), and delivery of any signature page by such method will be deemed to have the same effect as if the original signature had been delivered to the other party.

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IN WITNESS WHEREOF, the parties hereto have executed this Amendment as of the date first above written.

**AMYRIS, INC.**

By: /s/ Kathleen Valiasek  
Name: Kathleen Valiasek  
Title: Chief Financial Officer

[Signature Page to Foris Dilution Warrant Amendment

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IN WITNESS WHEREOF, the parties hereto have executed this Amendment as of the date first above written.

**FORIS VENTURES, LLC**

By: /s/ Barbara Hager

Name: Barbara Hager

Title: Manager

[Signature Page to Foris Dilution Warrant Amendment]

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**AMENDMENT TO COMMON STOCK PURCHASE WARRANT**

This Amendment to Common Stock Purchase Warrant (this "Amendment") is made and entered into as of August 17, 2018, by and between Amyris, Inc., a Delaware corporation (the "Company"), and Vivo Capital Fund VIII, L.P. (the "Holder").

**RECITALS**

**WHEREAS**, on August 3, 2017, the Company issued to the Holder a Common Stock Purchase Warrant (the "Cash Warrant"), which Cash Warrant is currently exercisable for 4,898,670 shares of the Company's common stock, par value \$0.0001 per share (without regard to any limitations on exercise thereof), at an exercise price of \$6.39 per share.

**WHEREAS**, the Company and the Holder desire to amend the Cash Warrant as set forth herein.

**WHEREAS**, pursuant to Section 5(l) of the Cash Warrant, the Cash Warrant may be amended with the written consent of the Company and the Holder.

**NOW, THEREFORE**, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereby agree as follows:

1. **Amendment of Section 2(b) of the Cash Warrant**. Section 2(b) of the Cash Warrant is hereby deleted in its entirety and replaced with the following:

b) Exercise Price. The exercise price per share of the Common Stock under this Warrant shall be \$4.40, subject to adjustment hereunder (the "Exercise Price").

2. **Amendment of Section 2(e) of the Cash Warrant**. Section 2(e) of the Cash Warrant is hereby deleted in its entirety and replaced with the following:

e) [RESERVED]

3. **Amendment of Section 3(c) of the Cash Warrant**. Section 3(c) of the Cash Warrant is hereby deleted in its entirety and replaced with the following:

c) Subsequent Rights Offerings. In addition to any adjustments pursuant to Section 3(a) above, if at any time subsequent to the Original Issue Date but prior to the date the Corporation obtains the Stockholder Approval the Company grants, issues or sells any Common Stock Equivalents or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of shares of Common Stock (the "Purchase Rights"), then each Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could have acquired if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on exercise hereof) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the grant, issue or sale of such Purchase Rights.

4. **Amendment of Section 3(d) of the Cash Warrant.** Section 3(d) of the Cash Warrant is hereby deleted in its entirety and replaced with the following:

d) **Pro Rata Distributions.** During such time as this Warrant is outstanding, if the Company shall declare or make any dividend or other distribution of its assets (or rights to acquire its assets) to holders of shares of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property or options by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction, but excluding any dividend that results in adjustment to the Conversion Price pursuant to Section 3(a) above) (a "**Distribution**"), at any time after the issuance of this Warrant, then, in each such case, the Holder shall be entitled to participate in such Distribution to the same extent that the Holder would have participated therein if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on exercise hereof) immediately before the date of which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the participation in such Distribution.

5. **Full Force and Effect.** Except as expressly modified by this Amendment, the terms of the Cash Warrant shall remain in full force and effect.
6. **Integration.** This Amendment and the Cash Warrant constitute the entire agreement and understanding of the parties with respect to the subject matter hereof, and supersede all prior understandings and agreements, whether oral or written, between or among the parties hereto with respect to the specific subject matter hereof.
7. **Counterparts; Facsimile.** This Amendment may be executed in one (1) or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. This Amendment may be executed and delivered by facsimile, or by email in portable document format (.pdf), and delivery of any signature page by such method will be deemed to have the same effect as if the original signature had been delivered to the other party.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the parties hereto have executed this Amendment as of the date first above written.

**AMYRIS, INC.**

By: /s/ Kathleen Valiasek  
Name: Kathleen Valiasek  
Title: Chief Financial Officer

[Signature Page to Vivo Capital Fund VIII, L.P. Cash Warrant Amendment]

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IN WITNESS WHEREOF, the parties hereto have executed this Amendment as of the date first above written.

**VIVO CAPITAL FUND VIII, L.P.**

By: /s/ Frank Kung

Name: Frank Kung

Title: Managing Member, Vivo Capital VIII, LLC, General Partner

[Signature Page to Vivo Capital Fund VIII, L.P. Cash Warrant Amendment]

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**AMENDMENT TO COMMON STOCK PURCHASE WARRANT**

This Amendment to Common Stock Purchase Warrant (this "Amendment") is made and entered into as of August 17, 2018, by and between Amyris, Inc., a Delaware corporation (the "Company"), and Vivo Capital Surplus Fund VIII, L.P. (the "Holder").

**RECITALS**

**WHEREAS**, on August 3, 2017, the Company issued to the Holder a Common Stock Purchase Warrant (the "Cash Warrant"), which Cash Warrant is currently exercisable for 676,448 shares of the Company's common stock, par value \$0.0001 per share (without regard to any limitations on exercise thereof), at an exercise price of \$6.39 per share.

**WHEREAS**, the Company and the Holder desire to amend the Cash Warrant as set forth herein.

**WHEREAS**, pursuant to Section 5(l) of the Cash Warrant, the Cash Warrant may be amended with the written consent of the Company and the Holder.

**NOW, THEREFORE**, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereby agree as follows:

1. **Amendment of Section 2(b) of the Cash Warrant**. Section 2(b) of the Cash Warrant is hereby deleted in its entirety and replaced with the following:

b) Exercise Price. The exercise price per share of the Common Stock under this Warrant shall be \$4.40, subject to adjustment hereunder (the "Exercise Price").

2. **Amendment of Section 2(e) of the Cash Warrant**. Section 2(e) of the Cash Warrant is hereby deleted in its entirety and replaced with the following:

e) [RESERVED]

3. **Amendment of Section 3(c) of the Cash Warrant**. Section 3(c) of the Cash Warrant is hereby deleted in its entirety and replaced with the following:

c) Subsequent Rights Offerings. In addition to any adjustments pursuant to Section 3(a) above, if at any time subsequent to the Original Issue Date but prior to the date the Corporation obtains the Stockholder Approval the Company grants, issues or sells any Common Stock Equivalents or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of shares of Common Stock (the "Purchase Rights"), then each Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could have acquired if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on exercise hereof) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the grant, issue or sale of such Purchase Rights.

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4. **Amendment of Section 3(d) of the Cash Warrant.** Section 3(d) of the Cash Warrant is hereby deleted in its entirety and replaced with the following:

d) **Pro Rata Distributions.** During such time as this Warrant is outstanding, if the Company shall declare or make any dividend or other distribution of its assets (or rights to acquire its assets) to holders of shares of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property or options by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction, but excluding any dividend that results in adjustment to the Conversion Price pursuant to Section 3(a) above) (a "**Distribution**"), at any time after the issuance of this Warrant, then, in each such case, the Holder shall be entitled to participate in such Distribution to the same extent that the Holder would have participated therein if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on exercise hereof) immediately before the date of which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the participation in such Distribution.

5. **Full Force and Effect.** Except as expressly modified by this Amendment, the terms of the Cash Warrant shall remain in full force and effect.
6. **Integration.** This Amendment and the Cash Warrant constitute the entire agreement and understanding of the parties with respect to the subject matter hereof, and supersede all prior understandings and agreements, whether oral or written, between or among the parties hereto with respect to the specific subject matter hereof.
7. **Counterparts; Facsimile.** This Amendment may be executed in one (1) or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. This Amendment may be executed and delivered by facsimile, or by email in portable document format (.pdf), and delivery of any signature page by such method will be deemed to have the same effect as if the original signature had been delivered to the other party.

**[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]**

IN WITNESS WHEREOF, the parties hereto have executed this Amendment as of the date first above written.

**AMYRIS, INC.**

By: /s/ Kathleen Valiasek  
Name: Kathleen Valiasek  
Title: Chief Financial Officer

[Signature Page to Vivo Capital Surplus Fund VIII, L.P. Cash Warrant Amendment]

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IN WITNESS WHEREOF, the parties hereto have executed this Amendment as of the date first above written.

**VIVO CAPITAL FUND VIII, L.P.**

By: /s/ Frank Kung

Name: Frank Kung

Title: Managing Member, Vivo Capital VIII, LLC, General Partner

[Signature Page to Vivo Capital Surplus Fund VIII, L.P. Cash Warrant Amendment]

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NEITHER THIS SECURITY NOR THE SECURITIES INTO WHICH THIS SECURITY IS EXERCISABLE HAS BEEN REGISTERED WITH THE SECURITIES AND EXCHANGE COMMISSION OR THE SECURITIES COMMISSION OF ANY STATE IN RELIANCE UPON AN EXEMPTION FROM REGISTRATION UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), AND, ACCORDINGLY, MAY NOT BE OFFERED OR SOLD EXCEPT PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT UNDER THE SECURITIES ACT OR PURSUANT TO AN AVAILABLE EXEMPTION FROM, OR IN A TRANSACTION NOT SUBJECT TO, THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT AND IN ACCORDANCE WITH APPLICABLE STATE SECURITIES LAWS. THIS SECURITY AND THE SECURITIES ISSUABLE UPON EXERCISE OF THIS SECURITY MAY BE PLEDGED IN CONNECTION WITH A BONA FIDE MARGIN ACCOUNT WITH A REGISTERED BROKER-DEALER OR OTHER LOAN WITH A FINANCIAL INSTITUTION THAT IS AN "ACCREDITED INVESTOR" AS DEFINED IN RULE 501(a) UNDER THE SECURITIES ACT OR OTHER LOAN SECURED BY SUCH SECURITIES.

## COMMON STOCK PURCHASE WARRANT

### AMYRIS, INC.

Warrant Shares: 1,855,706

Issue Date: August 20, 2018

THIS COMMON STOCK PURCHASE WARRANT (the "Warrant") certifies that, for value received, Vivo Capital Fund VIII, L.P. or its assigns (the "Holder") is entitled, upon the terms and subject to the limitations on exercise and the conditions hereinafter set forth, at any time on or after the open of business on the six month anniversary of the date hereof (the "Initial Exercise Date") and on or prior to the close of business on the fifteen month anniversary of the Initial Exercise Date (the "Termination Date") but not thereafter, to subscribe for and purchase from Amyris, Inc., a Delaware corporation (the "Company"), up to one million eight hundred and fifty five thousand seven hundred and six (1,855,706) shares (as subject to adjustment hereunder, the "Warrant Shares") of Common Stock. The purchase price of one share of Common Stock under this Warrant shall be equal to the Exercise Price, as defined in Section 2(b).

Section 1. Definitions. Capitalized terms used and not otherwise defined herein shall have the meanings set forth in that certain Warrant Exercise Agreement (the "Warrant Exercise Agreement"), dated August 17, 2018, among the Company and the Holder, as such definitions are in effect on August 17, 2018.

#### Section 2. Exercise.

a) Exercise of Warrant. Exercise of the purchase rights represented by this Warrant may be made, in whole or in part, at any time or times on or after the Initial Exercise Date and on or before the Termination Date by delivery to the Company of a duly executed facsimile copy or PDF copy submitted by electronic (or e-mail attachment) of the Notice of Exercise in the form annexed hereto ("Notice of Exercise"). Within two (2) Trading Days following the date of exercise as aforesaid, the Holder shall deliver the aggregate Exercise Price for the shares specified in the applicable Notice of Exercise by wire transfer or cashier's check drawn on a United States bank unless the cashless exercise procedure specified in Section 2(c) below is specified in the applicable Notice of Exercise. No ink-original Notice of Exercise shall be required, nor shall any medallion guarantee (or other type of guarantee or notarization) of any Notice of Exercise form be required. Notwithstanding anything herein to the contrary, the Holder shall not be required to physically surrender this Warrant to the Company until the Holder has purchased all of the Warrant Shares available hereunder and the Warrant has been exercised in full, in which case, the Holder shall surrender this Warrant to the Company for cancellation within three (3) Trading Days of the date the final Notice of Exercise is delivered to the Company. Partial exercises of this Warrant resulting in purchases of a portion of the total number of Warrant Shares available hereunder shall have the effect of lowering the outstanding number of Warrant Shares purchasable hereunder in an amount equal to the applicable number of Warrant Shares purchased. The Company shall maintain records showing the number of Warrant Shares purchased and the date of such purchases. The Company shall deliver any objection to any Notice of Exercise within one (1) Business Day of receipt of such notice. **The Holder and any assignee, by acceptance of this Warrant, acknowledge and agree that, by reason of the provisions of this paragraph, following the purchase of a portion of the Warrant Shares hereunder, the number of Warrant Shares available for purchase hereunder at any given time may be less than the amount stated on the face hereof.**

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b) Exercise Price. The exercise price per share of the Common Stock under this Warrant shall be \$7.52, subject to adjustment hereunder (the "Exercise Price").

c) Cashless Exercise. Notwithstanding anything contained herein to the contrary, if a registration statement covering the resale of the Warrant Shares subject to the applicable Notice of Exercise is not available for the resale of such Warrant Shares, at any time after the six month anniversary of the Initial Exercise Date, this Warrant may be exercised, in whole or in part, at any time or times on or after the Initial Exercise Date and on or before the Termination Date at the election of the Holder (in such Holder's sole discretion) by means of a "cashless exercise" in which the Holder shall be entitled to receive a number of Warrant Shares equal to the quotient obtained by dividing  $((A-B) * (X))$  by (A), where:

(A) = as applicable: (i) the VWAP on the Trading Day immediately preceding the date of the applicable Notice of Exercise if such Notice of Exercise is (1) both executed and delivered pursuant to Section 2(a) hereof on a day that is not a Trading Day or (2) both executed and delivered pursuant to Section 2(a) hereof on a Trading Day prior to the opening of "regular trading hours" (as defined in Rule 600(b)(64) of Regulation NMS promulgated under the federal securities laws) on such Trading Day, (ii) at the option of the Holder, either (y) the VWAP on the Trading Day immediately preceding the date of the applicable Notice of Exercise or (z) the Bid Price of the Common Stock on the principal Trading Market as reported by Bloomberg L.P. as of the time of the Holder's execution of the applicable Notice of Exercise if such Notice of Exercise is executed during "regular trading hours" on a Trading Day and is delivered within two (2) hours thereafter (including until two (2) hours after the close of "regular trading hours" on a Trading Day) pursuant to Section 2(a) hereof or (iii) the VWAP on the date of the applicable Notice of Exercise if the date of such Notice of Exercise is a Trading Day and such Notice of Exercise is both executed and delivered pursuant to Section 2(a) hereof after the close of "regular trading hours" on such Trading Day;

(B) = the Exercise Price of this Warrant, as adjusted hereunder; and

(X) = the number of Warrant Shares that would be issuable upon exercise of this Warrant in accordance with the terms of this Warrant if such exercise were by means of a cash exercise rather than a cashless exercise.

If Warrant Shares are issued in such a cashless exercise, the parties acknowledge and agree that in accordance with Section 3(a)(9) of the Securities Act, the Warrant Shares shall take on the characteristics of the Warrants being exercised, and the holding period of the Warrant Shares being issued may be tacked on to the holding period of this Warrant. The Company agrees not to take any position contrary to this Section 2(c).

“Bid Price” means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading Market, the bid price of the Common Stock for the time in question (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg L.P. (based on a Trading Day from 9:30 a.m. (New York City time) to 4:02 p.m. (New York City time)), (b) if OTCQB or OTCQX is not a Trading Market, the volume weighted average price of the Common Stock for such date (or the nearest preceding date) on OTCQB or OTCQX as applicable, (c) if the Common Stock is not then listed or quoted for trading on OTCQB or OTCQX and if prices for the Common Stock are then reported in the “Pink Sheets” published by OTC Markets Group, Inc. (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of the Common Stock so reported, or (d) in all other cases, the fair market value of a share of Common Stock as determined by an independent appraiser selected in good faith by the Holder and reasonably acceptable to the Company, the fees and expenses of which shall be paid by the Company.

“VWAP” means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading Market, the daily volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg L.P. (based on a Trading Day from 9:30 a.m. (New York City time) to 4:02 p.m. (New York City time)), (b) if OTCQB or OTCQX is not a Trading Market, the volume weighted average price of the Common Stock for such date (or the nearest preceding date) on OTCQB or OTCQX as applicable, (c) if the Common Stock is not then listed or quoted for trading on OTCQB or OTCQX and if prices for the Common Stock are then reported in the “Pink Sheets” published by OTC Markets Group, Inc. (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of the Common Stock so reported, or (d) in all other cases, the fair market value of a share of Common Stock as determined by an independent appraiser selected in good faith by the Holder and reasonably acceptable to the Company, the fees and expenses of which shall be paid by the Company.

Notwithstanding anything herein to the contrary, on the Termination Date, if a registration statement covering the resale of the Warrant Shares is not available for the resale of the Warrant Shares, this Warrant shall be automatically exercised via cashless exercise pursuant to this Section 2(c).

d) Mechanics of Exercise.

- i. Delivery of Warrant Shares Upon Exercise. Warrant Shares purchased hereunder shall be transmitted by the Transfer Agent to the Holder by crediting the account of the Holder's or its designee's balance account with The Depository Trust Company through its Deposit or Withdrawal at Custodian system ("DWAC") if the Company is then a participant in such system and either (A) there is an effective registration statement permitting the issuance of the Warrant Shares to or resale of the Warrant Shares by the Holder or (B) the Warrant Shares are eligible for resale by the Holder without volume or manner-of-sale limitations pursuant to Rule 144, and otherwise by physical delivery of a certificate, registered in the Company's share register in the name of the Holder or its designee, for the number of Warrant Shares to which the Holder is entitled pursuant to such exercise to the address specified by the Holder in the Notice of Exercise by the date that is the earlier of (i) two (2) Trading Days after the delivery to the Company of the Notice of Exercise and (ii) one (1) Trading Day after delivery of the aggregate Exercise Price to the Company (such date, the "Warrant Share Delivery Date"). Upon delivery of the Notice of Exercise, 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, irrespective of the date of delivery of the Warrant Shares, provided that payment of the aggregate Exercise Price (other than in the case of a cashless exercise) is received within two (2) Trading following delivery of the Notice of Exercise. If the Company fails for any reason to deliver to the Holder the Warrant Shares subject to a Notice of Exercise by the Warrant Share Delivery Date, the Company shall pay to the Holder, in cash, as liquidated damages and not as a penalty, for each \$1,000 of Warrant Shares subject to such exercise (based on the VWAP of the Common Stock on the date of the applicable Notice of Exercise), \$10 per Trading Day (increasing to \$20 per Trading Day on the fifth Trading Day after such liquidated damages begin to accrue) for each Trading Day commencing one Trading Day after such Warrant Share Delivery Date until such Warrant Shares are delivered or Holder rescinds such exercise. The Company agrees to maintain a transfer agent that is a participant in the FAST program so long as this Warrant remains outstanding and exercisable.

ii. Delivery of New Warrants Upon Exercise. If this Warrant shall have been exercised in part, the Company shall, at the request of a Holder and upon surrender of this Warrant certificate, at the time of delivery of the Warrant Shares, deliver to the Holder a new Warrant evidencing the rights of the Holder to purchase the unpurchased Warrant Shares called for by this Warrant, which new Warrant shall in all other respects be identical with this Warrant.

iii. Rescission Rights. If the Company fails to cause the Transfer Agent to transmit to the Holder the Warrant Shares pursuant to Section 2(d)(i) by the Warrant Share Delivery Date, then the Holder will have the right to rescind such exercise.

iv. Compensation for Buy-In on Failure to Timely Deliver Warrant Shares Upon Exercise. In addition to any other rights available to the Holder, if the Company fails to cause the Transfer Agent to transmit to the Holder the Warrant Shares in accordance with the provisions of Section 2(d)(i) above pursuant to an exercise on or before the Warrant Share Delivery Date, and if after such date the Holder is required by its broker to purchase (in an open market transaction or otherwise) or the Holder's brokerage firm otherwise purchases, shares of Common Stock to deliver in satisfaction of a sale by the Holder of the Warrant Shares which the Holder anticipated receiving upon such exercise (a "Buy-In"), then the Company shall (A) pay in cash to the Holder the amount, if any, by which (x) the Holder's total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased exceeds (y) the amount obtained by multiplying (1) the number of Warrant Shares that the Company was required to deliver to the Holder in connection with the exercise at issue times (2) the price at which the sell order giving rise to such purchase obligation was executed, and (B) at the option of the Holder, either reinstate the portion of the Warrant and equivalent number of Warrant Shares for which such exercise was not honored (in which case such exercise shall be deemed rescinded) or deliver to the Holder the number of shares of Common Stock that would have been issued had the Company timely complied with its exercise and delivery obligations hereunder. For example, if the Holder purchases Common Stock having a total purchase price of \$11,000 to cover a Buy-In with respect to an attempted exercise of shares of Common Stock with an aggregate sale price giving rise to such purchase obligation of \$10,000, under clause (A) of the immediately preceding sentence the Company shall be required to pay the Holder \$1,000. The Holder shall provide the Company written notice indicating the amounts payable to the Holder in respect of the Buy-In and, upon request of the Company, evidence of the amount of such loss. Nothing herein shall limit a Holder's right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Company's failure to timely deliver shares of Common Stock upon exercise of the Warrant as required pursuant to the terms hereof.

v. No Fractional Shares or Scrip. No fractional shares or scrip representing fractional shares shall be issued upon the exercise of this Warrant. As to any fraction of a share which the Holder would otherwise be entitled to purchase upon such exercise, the Company shall, at its election, either pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the Exercise Price or round up to the next whole share.

vi. Charges, Taxes and Expenses. Issuance of Warrant Shares shall be made without charge to the Holder for any issue or transfer tax or other incidental expense in respect of the issuance of such Warrant Shares, all of which taxes and expenses shall be paid by the Company, and such Warrant Shares shall be issued in the name of the Holder or in such name or names as may be directed by the Holder; provided, however, that in the event that Warrant Shares are to be issued in a name other than the name of the Holder, this Warrant when surrendered for exercise shall be accompanied by the Assignment Form attached hereto duly executed by the Holder and the Company may require, as a condition thereto, the payment of a sum sufficient to reimburse it for any transfer tax incidental thereto. The Company shall pay all Transfer Agent fees required for same-day processing of any Notice of Exercise and all fees to the Depository Trust Company (or another established clearing corporation performing similar functions) required for same-day electronic delivery of the Warrant Shares.

vii. Closing of Books. The Company will not close its stockholder books or records in any manner which prevents the timely exercise of this Warrant, pursuant to the terms hereof.

e ) Holder's Exercise Limitations. Notwithstanding anything to the contrary contained herein, the Company shall not effect any exercise of this Warrant, and a Holder shall not have the right to exercise any portion of this Warrant, pursuant to Section 2 or otherwise, to the extent that after giving effect to such issuance after exercise as set forth on the applicable Notice of Exercise, the Holder (together with the Holder's Affiliates, and any other Persons acting as a group together with the Holder or any of the Holder's Affiliates (such Persons, "Attribution Parties")), would beneficially own in excess of the Beneficial Ownership Limitation (as defined below). For purposes of the foregoing sentence, the number of shares of Common Stock beneficially owned by the Holder and its Affiliates and Attribution Parties shall include the number of shares of Common Stock issuable upon exercise of this Warrant with respect to which such determination is being made, but shall exclude the number of shares of Common Stock which would be issuable upon (i) exercise of the remaining, nonexercised portion of this Warrant beneficially owned by the Holder or any of its Affiliates or Attribution Parties and (ii) exercise or conversion of the unexercised or nonconverted portion of any other securities of the Company (including, without limitation, any other Common Stock Equivalents (as defined below)) subject to a limitation on

conversion or exercise analogous to the limitation contained herein beneficially owned by the Holder or any of its Affiliates or Attribution Parties. Except as set forth in the preceding sentence, for purposes of this Section 2(e), beneficial ownership shall be calculated in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder, it being acknowledged by the Holder that the Company is not representing to the Holder that such calculation is in compliance with Section 13(d) of the Exchange Act and the Holder is solely responsible for any schedules required to be filed in accordance therewith. To the extent that the limitation contained in this Section 2(e) applies, the determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder together with any Affiliates and Attribution Parties) and of which portion of this Warrant is exercisable shall be in the sole discretion of the Holder, and the submission of a Notice of Exercise shall be deemed to be the Holder's determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder together with any Affiliates and Attribution Parties) and of which portion of this Warrant is exercisable, in each case subject to the Beneficial Ownership Limitation, and the Company shall have no obligation to verify or confirm the accuracy of such determination. In addition, a determination as to any group status as contemplated above shall be determined in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. For purposes of this Section 2(e), in determining the number of outstanding shares of Common Stock, a Holder may rely on the number of outstanding shares of Common Stock as reflected in (A) the Company's most recent periodic or annual report filed with the Commission, as the case may be, (B) a more recent public announcement by the Company or (C) a more recent written notice by the Company or the Transfer Agent setting forth the number of shares of Common Stock outstanding. Upon the written or oral request of a Holder, the Company shall within two Trading Days confirm orally and in writing to the Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Company, including this Warrant, by the Holder or its Affiliates or Attribution Parties since the date as of which such number of outstanding shares of Common Stock was reported. The "Beneficial Ownership Limitation" shall be 9.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock issuable upon exercise of this Warrant. The Holder, upon notice to the Company, may waive the Beneficial Ownership Limitation provisions of this Section 2(e), provided that such waiver (i) will not be effective until the 61<sup>st</sup> day after such notice is delivered to the Company, and (ii) will not be effective to the extent such waiver would require the prior approval of the Company's stockholders, unless such approval has been obtained. If such stockholder approval is required and has not been obtained, the Company shall use its commercially reasonable efforts to timely obtain such stockholder approval. The provisions of this paragraph shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 2(e) to correct this paragraph (or any portion hereof) which may be defective or inconsistent with the intended Beneficial Ownership Limitation herein contained or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitations contained in this paragraph shall apply to a successor holder of this Warrant. "Common Stock Equivalents" means any securities of the Company or its subsidiaries which would entitle the holder thereof to acquire at any time Common Stock, including, without limitation, any debt, preferred stock, right, option, warrant or other instrument that is at any time convertible into, or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock.

Section 3. Certain Adjustments.

a) Stock Dividends and Splits. If the Company, at any time while this Warrant is outstanding: (i) pays a stock dividend or otherwise makes a distribution or distributions on shares of its Common Stock or any other equity or equity equivalent securities payable in shares of Common Stock (which, for avoidance of doubt, shall not include any shares of Common Stock issued by the Company upon exercise of this Warrant), (ii) subdivides outstanding shares of Common Stock into a larger number of shares, (iii) combines (including by way of reverse stock split) outstanding shares of Common Stock into a smaller number of shares or (iv) issues by reclassification of shares of the Common Stock any shares of capital stock of the Company, then in each case the Exercise Price shall be multiplied by a fraction of which the numerator shall be the number of shares of Common Stock (excluding treasury shares, if any) outstanding immediately before such event and of which the denominator shall be the number of shares of Common Stock outstanding immediately after such event, and the number of shares issuable upon exercise of this Warrant shall be proportionately adjusted such that the aggregate Exercise Price of this Warrant shall remain unchanged. Any adjustment made pursuant to this Section 3(a) shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution and shall become effective immediately after the effective date in the case of a subdivision, combination or re-classification.

b) [INTENTIONALLY OMITTED]

c) Subsequent Rights Offerings. In addition to any adjustments pursuant to Section 3(a) above, if at any time after the Original Issue Date the Company grants, issues or sells any Common Stock Equivalents or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of shares of Common Stock (the "Purchase Rights"), then each Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could have acquired if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on exercise hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the grant, issue or sale of such Purchase Rights (provided, however, to the extent that the Holder's right to participate in any such Purchase Right would result in the Holder exceeding the Beneficial Ownership Limitation and the Beneficial Ownership Limitation is not waived by the Holder, then the Holder shall not be entitled to participate in such Purchase Right to such extent (or beneficial ownership of such shares of Common Stock as a result of such Purchase Right to such extent) and such Purchase Right to such extent shall be held in abeyance for the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation).

d ) Pro Rata Distributions. During such time as this Warrant is outstanding, if the Company shall declare or make any dividend or other distribution of its assets (or rights to acquire its assets) to holders of shares of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property or options by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction, but excluding any dividend that results in adjustment to the Conversion Price pursuant to Section 3(a) above) (a “Distribution”), at any time after the issuance of this Warrant, then, in each such case, the Holder shall be entitled to participate in such Distribution to the same extent that the Holder would have participated therein if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on exercise hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date of which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the participation in such Distribution (provided, however, to the extent that the Holder's right to participate in any such Distribution would result in the Holder exceeding the Beneficial Ownership Limitation and the Beneficial Ownership Limitation is not waived by the Holder, then the Holder shall not be entitled to participate in such Distribution to such extent (or in the beneficial ownership of any shares of Common Stock as a result of such Distribution to such extent) and the portion of such Distribution shall be held in abeyance for the benefit of the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation).

e ) 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, (ii) the Company, directly or indirectly, effects any sale, lease, license, assignment, transfer, conveyance 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, (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, or (v) the Company, directly or indirectly, in one or more related transactions consummates a stock or share purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with another Person or group of Persons whereby such other Person or group acquires more than 50% of the outstanding shares of Common Stock (not including any shares of Common Stock held by the other Person or other Persons making or party to, or associated or affiliated with the other Persons making or party to, such stock or share purchase agreement or other business combination) (each a “Fundamental Transaction”), then, the Holder shall have the right to receive, for each Warrant Share that would have been issuable upon such exercise immediately prior to the occurrence of such Fundamental Transaction (as if the exercise of the Warrant occurred immediately prior to the occurrence of such Fundamental Transaction), at the option of the Holder (without regard to any limitation in Section 2(e) on the exercise of this Warrant), the number of shares of common stock of the successor or acquiring corporation or shares of Common Stock of the Company, if it is the surviving corporation, and any additional consideration (the “Alternate Consideration”) receivable as a result of such Fundamental Transaction by a holder of the number of shares of Common Stock for which this Warrant is exercisable immediately prior to such Fundamental Transaction (without regard to any limitation in Section 2(e) on the exercise of this Warrant). For purposes of any such exercise, the determination of the Exercise Price shall be appropriately adjusted to apply to such Alternate Consideration based on the amount of Alternate Consideration issuable in respect of one share of Common Stock in such Fundamental Transaction, and the Company shall apportion the Exercise Price among the Alternate Consideration in a reasonable manner reflecting the relative value of any different components of the Alternate Consideration. If holders of Common Stock are given any choice as to the securities, cash or property to be received in a Fundamental Transaction, then the Holder shall be given the same choice as to the Alternate Consideration it receives upon any exercise of this Warrant following such Fundamental Transaction.

f) Calculations. All calculations under this Section 3 shall be made to the nearest cent or the nearest 1/100th of a share, as the case may be. For purposes of this Section 3, the number of shares of Common Stock deemed to be issued and outstanding as of a given date shall be the sum of the number of shares of Common Stock (excluding treasury shares, if any) issued and outstanding.

g) Notice to Holder.

i. Adjustment to Exercise Price. Whenever the Exercise Price is adjusted pursuant to any provision of this Section 3, the Company shall within two (2) Trading Days deliver to the Holder by facsimile or email a notice setting forth the Exercise Price after such adjustment and any resulting adjustment to the number of Warrant Shares and setting forth a brief statement of the facts requiring such adjustment.

ii. Notice to Allow Exercise by Holder. If (A) the Company shall declare a dividend (or any other distribution in whatever form) on the Common Stock, (B) the Company shall declare a special nonrecurring cash dividend on or a redemption of the Common Stock, (C) the Company shall authorize the granting to all holders of the Common Stock rights or warrants to subscribe for or purchase any shares of capital stock of any class or of any rights, (D) the approval of any stockholders of the Company shall be required in connection with any reclassification of the Common Stock, any consolidation or merger to which the Company is a party, any sale or transfer of all or substantially all of the assets of the Company, or any compulsory share exchange whereby the Common Stock is converted into other securities, cash or property, or (E) the Company shall authorize the voluntary or involuntary dissolution, liquidation or winding up of the affairs of the Company, then, in each case, the Company shall cause to be delivered by facsimile or email to the Holder at its last facsimile number or email address as it shall appear upon the Warrant Register of the Company, at least 20 calendar days prior to the applicable record or effective date hereinafter specified, a notice stating (x) the date on which a record is to be taken for the purpose of such dividend, distribution, redemption, rights or warrants, or if a record is not to be taken, the date as of which the holders of the Common Stock of record to be entitled to such dividend, distributions, redemption, rights or warrants are to be determined or (y) the date on which such reclassification, consolidation, merger, sale, transfer or share exchange is expected to become effective or close, and the date as of which it is expected that holders of the Common Stock of record shall be entitled to exchange their shares of the Common Stock for securities, cash or other property deliverable upon such reclassification, consolidation, merger, sale, transfer or share exchange; provided that the failure to deliver such notice or any defect therein or in the delivery thereof shall not affect the validity of the corporate action required to be specified in such notice. To the extent that any notice provided in this Warrant constitutes, or contains, material, non-public information regarding the Company or any of the Subsidiaries, the Company shall simultaneously file such notice with the Commission pursuant to a Current Report on Form 8-K. The Holder shall remain entitled to exercise this Warrant during the period commencing on the date of such notice to the effective date of the event triggering such notice except as may otherwise be expressly set forth herein.

#### Section 4. Transfer of Warrant.

a ) Transferability. Subject to compliance with any applicable securities laws and the conditions set forth in Section 4(d) hereof and to the provisions of Section 4(a) of the Warrant Exercise Agreement, this Warrant and all rights hereunder are transferable, in whole or in part, upon surrender of this Warrant at the principal office of the Company or its designated agent, together with a written assignment of this Warrant substantially in the form attached hereto duly executed by the Holder or its agent or attorney and funds sufficient to pay any transfer taxes payable upon the making of such transfer. Upon such surrender and, if required, such payment, the Company shall execute and deliver a new Warrant or Warrants in the name of the assignee or assignees, as applicable, and in the denomination or denominations specified in such instrument of assignment, and shall issue to the assignor a new Warrant evidencing the portion of this Warrant not so assigned, and this Warrant shall promptly be cancelled. Notwithstanding anything herein to the contrary, the Holder shall not be required to physically surrender this Warrant to the Company unless the Holder has assigned this Warrant in full, in which case, the Holder shall surrender this Warrant to the Company within three (3) Trading Days of the date the Holder delivers an assignment form to the Company assigning this Warrant full. The Warrant, if properly assigned in accordance herewith, may be exercised by a new holder for the purchase of Warrant Shares without having a new Warrant issued.

b ) New Warrants. This Warrant may be divided or combined with other Warrants upon presentation hereof at the aforesaid office of the Company, together with a written notice specifying the names and denominations in which new Warrants are to be issued, signed by the Holder or its agent or attorney. Subject to compliance with Section 4(a), as to any transfer which may be involved in such division or combination, the Company shall execute and deliver a new Warrant or Warrants in exchange for the Warrant or Warrants to be divided or combined in accordance with such notice. All Warrants issued on transfers or exchanges shall be dated the original issue date and shall be identical with this Warrant except as to the number of Warrant Shares issuable pursuant thereto.

c ) Warrant Register. The Company shall register this Warrant, upon records to be maintained by the Company for that purpose (the "Warrant Register"), in the name of the record Holder hereof from time to time. The Company may deem and treat the registered Holder of this Warrant as the absolute owner hereof for the purpose of any exercise hereof or any distribution to the Holder, and for all other purposes, absent actual notice to the contrary.

d ) Transfer Restrictions. If, at the time of the surrender of this Warrant in connection with any transfer of this Warrant, the transfer of this Warrant shall not be either (i) registered pursuant to an effective registration statement under the Securities Act and under applicable state securities or blue sky laws or (ii) eligible for resale without volume or manner-of-sale restrictions or current public information requirements pursuant to Rule 144, the Company may require, as a condition of allowing such transfer, that the Holder or transferee of this Warrant, as the case may be, comply with the provisions of Section 4(a) of the Warrant Exercise Agreement.

e ) Representation by the Holder. The Holder, by the acceptance hereof, represents and warrants that it is acquiring this Warrant and, upon any exercise hereof, will acquire the Warrant Shares issuable upon such exercise, for its own account and not with a view to or for distributing or reselling such Warrant Shares or any part thereof in violation of the Securities Act or any applicable state securities law, except pursuant to sales registered or exempted under the Securities Act.

Section 5. Miscellaneous.

a) No Rights as Stockholder Until Exercise. This Warrant does not entitle the Holder to any voting rights, dividends or other rights as a stockholder of the Company prior to the exercise hereof as set forth in Section 2(d)(i), except as expressly set forth in Section 3.

b) Loss, Theft, Destruction or Mutilation of Warrant. The Company covenants that upon receipt by the Company of evidence reasonably satisfactory to it of the loss, theft, destruction or mutilation of this Warrant or any stock certificate relating to the Warrant Shares, and in case of loss, theft or destruction, of indemnity or security reasonably satisfactory to it (which, in the case of the Warrant, shall not include the posting of any bond), and upon surrender and cancellation of such Warrant or stock certificate, if mutilated, the Company will make and deliver a new Warrant or stock certificate of like tenor and dated as of such cancellation, in lieu of such Warrant or stock certificate.

c) Saturdays, Sundays, Holidays, etc. If the last or appointed day for the taking of any action or the expiration of any right required or granted herein shall not be a Business Day, then, such action may be taken or such right may be exercised on the next succeeding Business Day.

d) Authorized Shares.

1. During the period the Warrant is outstanding from and after the Initial Exercise Date, the Company covenants that it will reserve from its authorized and unissued Common Stock a sufficient number of shares to provide for the issuance of the Warrant Shares upon the exercise of any purchase rights under this Warrant. The Company further covenants that its issuance of this Warrant shall constitute full authority to its officers who are charged with the duty of issuing the necessary Warrant Shares upon the exercise of the purchase rights under this Warrant. 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, or of any requirements of the Trading Market upon which the Common Stock may be listed. The Company covenants that all Warrant Shares which may be issued upon the exercise of the purchase rights represented by this Warrant will, upon exercise of the purchase rights represented by this Warrant and payment for such Warrant Shares in accordance herewith, be duly authorized, validly issued, fully paid and nonassessable and free from all taxes, liens and charges created by the Company in respect of the issue thereof (other than taxes in respect of any transfer occurring contemporaneously with such issue).

2. Except and to the extent as waived or consented to by the Holder, the Company shall not by any action, including, without limitation, amending its certificate of incorporation 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 of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such actions as may be necessary or appropriate to protect the rights of Holder as set forth in this Warrant against impairment. Without limiting the generality of the foregoing, the Company will (i) not increase the par value of any Warrant Shares above the amount payable therefor upon such exercise immediately prior to such increase in par value, (ii) take all such action as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable Warrant Shares upon the exercise of this Warrant and (iii) use commercially reasonable efforts to obtain all such authorizations, exemptions or consents from any public regulatory body having jurisdiction thereof, as may be, necessary to enable the Company to perform its obligations under this Warrant.

3. Before taking any action which would result in an adjustment in the number of Warrant Shares for which this Warrant is exercisable or in the Exercise Price, the Company shall obtain all such authorizations or exemptions thereof, or consents thereto, as may be necessary from any public regulatory body or bodies having jurisdiction thereof.

e) Jurisdiction. All questions concerning the construction, validity, enforcement and interpretation of this Warrant shall be determined in accordance with the provisions of the Warrant Exercise Agreement.

f) Restrictions. The Holder acknowledges that the Warrant Shares acquired upon the exercise of this Warrant, if not registered and the Holder does not utilize cashless exercise, will have restrictions upon resale imposed by state and federal securities laws.

g) Nonwaiver and Expenses. No course of dealing or any delay or failure to exercise any right hereunder on the part of Holder shall operate as a waiver of such right or otherwise prejudice the Holder's rights, powers or remedies, notwithstanding the fact that all rights hereunder terminate on the Termination Date. If the Company willfully and knowingly fails to comply with any provision of this Warrant, which results in any material damages to the Holder, the Company shall pay to the Holder such amounts as shall be sufficient to cover any costs and expenses including, but not limited to, reasonable attorneys' fees, including those of appellate proceedings, incurred by the Holder in collecting any amounts due pursuant hereto or in otherwise enforcing any of its rights, powers or remedies hereunder.

h) Notices. Any notice, request or other document required or permitted to be given or delivered to the Holder by the Company shall be delivered in accordance with the notice provisions of the Warrant Exercise Agreement.

i) Limitation of Liability. No provision hereof, in the absence of any affirmative action by the Holder to exercise this Warrant to purchase Warrant Shares, and no enumeration herein of the rights or privileges of the Holder, shall give rise to any liability of the Holder for the purchase price of any Common Stock or as a stockholder of the Company, whether such liability is asserted by the Company or by creditors of the Company.

j ) Remedies. The Holder, in addition to being entitled to exercise all rights granted by law, including recovery of damages, will be entitled to specific performance of its rights under this Warrant. The Company agrees that monetary damages would not be adequate compensation for any loss incurred by reason of a breach by it of the provisions of this Warrant and hereby agrees to waive and not to assert the defense in any action for specific performance that a remedy at law would be adequate.

k ) Successors and Assigns. Subject to applicable securities laws, this Warrant and the rights and obligations evidenced hereby shall inure to the benefit of and be binding upon the successors and permitted assigns of the Company and the successors and permitted assigns of Holder. The provisions of this Warrant are intended to be for the benefit of any Holder from time to time of this Warrant and shall be enforceable by the Holder or holder of Warrant Shares.

l) Amendment. This Warrant may be modified or amended or the provisions hereof waived with the written consent of the Company and the Holder.

m) Severability. Wherever possible, each provision of this Warrant shall be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Warrant shall be prohibited by or invalid under applicable law, such provision shall be ineffective to the extent of such prohibition or invalidity, without invalidating the remainder of such provisions or the remaining provisions of this Warrant.

n ) 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.

\*\*\*\*\*

*(Signature Page Follows)*

IN WITNESS WHEREOF, the Company has caused this Warrant to be executed by its officer thereunto duly authorized as of the date first above indicated.

**AMYRIS, INC.**

By: /s/ Kathleen Valiasek

Name: Kathleen Valiasek

Title: Chief Financial Officer



**NOTICE OF EXERCISE**

TO: AMYRIS, INC.

(1) The undersigned hereby elects to purchase \_\_\_\_\_ Warrant Shares of the Company pursuant to the terms of the attached Warrant (only if exercised in full), and tenders herewith payment of the exercise price in full, together with all applicable transfer taxes, if any.

(2) Applicable Exercise Price: \$ \_\_\_\_\_

(3) Payment shall take the form of (check applicable box):

in lawful money of the United States; or

the cancellation of such number of Warrant Shares as is necessary, in accordance with the formula set forth in subsection 2(c), to exercise this Warrant with respect to the maximum number of Warrant Shares purchasable pursuant to the cashless exercise procedure set forth in subsection 2(c).

(4) Please issue said Warrant Shares in the name of the undersigned or in such other name as is specified below:

\_\_\_\_\_

The Warrant Shares shall be delivered to the following DWAC Account Number:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(4) Accredited Investor. The undersigned is an “accredited investor” as defined in Regulation D promulgated under the Securities Act of 1933, as amended.

[SIGNATURE OF HOLDER]

Name of Investing Entity: \_\_\_\_\_

*Signature of Authorized Signatory of Investing Entity:* \_\_\_\_\_

Name of Authorized Signatory: \_\_\_\_\_

Title of Authorized Signatory: \_\_\_\_\_

Date: \_\_\_\_\_

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ASSIGNMENT FORM

*(To assign the foregoing Warrant, execute this form and supply required information. Do not use this form to purchase shares.)*

FOR VALUE RECEIVED, the foregoing Warrant and all rights evidenced thereby are hereby assigned to

Name: \_\_\_\_\_  
(Please Print)

Address: \_\_\_\_\_  
(Please Print)

Phone Number: \_\_\_\_\_

Email Address: \_\_\_\_\_

Dated: \_\_\_\_\_, \_\_\_\_\_

Holder's Signature: \_\_\_\_\_

Holder's Address: \_\_\_\_\_

NEITHER THIS SECURITY NOR THE SECURITIES INTO WHICH THIS SECURITY IS EXERCISABLE HAS BEEN REGISTERED WITH THE SECURITIES AND EXCHANGE COMMISSION OR THE SECURITIES COMMISSION OF ANY STATE IN RELIANCE UPON AN EXEMPTION FROM REGISTRATION UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), AND, ACCORDINGLY, MAY NOT BE OFFERED OR SOLD EXCEPT PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT UNDER THE SECURITIES ACT OR PURSUANT TO AN AVAILABLE EXEMPTION FROM, OR IN A TRANSACTION NOT SUBJECT TO, THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT AND IN ACCORDANCE WITH APPLICABLE STATE SECURITIES LAWS. THIS SECURITY AND THE SECURITIES ISSUABLE UPON EXERCISE OF THIS SECURITY MAY BE PLEDGED IN CONNECTION WITH A BONA FIDE MARGIN ACCOUNT WITH A REGISTERED BROKER-DEALER OR OTHER LOAN WITH A FINANCIAL INSTITUTION THAT IS AN "ACCREDITED INVESTOR" AS DEFINED IN RULE 501(a) UNDER THE SECURITIES ACT OR OTHER LOAN SECURED BY SUCH SECURITIES.

## COMMON STOCK PURCHASE WARRANT

### AMYRIS, INC.

Warrant Shares: 256,251

Issue Date: August 20, 2018

THIS COMMON STOCK PURCHASE WARRANT (the "Warrant") certifies that, for value received, Vivo Capital Surplus Fund VIII, L.P. or its assigns (the "Holder") is entitled, upon the terms and subject to the limitations on exercise and the conditions hereinafter set forth, at any time on or after the open of business on the six month anniversary of the date hereof (the "Initial Exercise Date") and on or prior to the close of business on the fifteen month anniversary of the Initial Exercise Date (the "Termination Date") but not thereafter, to subscribe for and purchase from Amyris, Inc., a Delaware corporation (the "Company"), up to two hundred and fifty six thousand two hundred and fifty one (256,251) shares (as subject to adjustment hereunder, the "Warrant Shares") of Common Stock. The purchase price of one share of Common Stock under this Warrant shall be equal to the Exercise Price, as defined in Section 2(b).

Section 1. Definitions. Capitalized terms used and not otherwise defined herein shall have the meanings set forth in that certain Warrant Exercise Agreement (the "Warrant Exercise Agreement"), dated August 17, 2018, among the Company and the Holder, as such definitions are in effect on August 17, 2018.

#### Section 2. Exercise.

a) Exercise of Warrant. Exercise of the purchase rights represented by this Warrant may be made, in whole or in part, at any time or times on or after the Initial Exercise Date and on or before the Termination Date by delivery to the Company of a duly executed facsimile copy or PDF copy submitted by electronic (or e-mail attachment) of the Notice of Exercise in the form annexed hereto ("Notice of Exercise"). Within two (2) Trading Days following the date of exercise as aforesaid, the Holder shall deliver the aggregate Exercise Price for the shares specified in the applicable Notice of Exercise by wire transfer or cashier's check drawn on a United States bank unless the cashless exercise procedure specified in Section 2(c) below is specified in the applicable Notice of Exercise. No ink-original Notice of Exercise shall be required, nor shall any medallion guarantee (or other type of guarantee or notarization) of any Notice of Exercise form be required. Notwithstanding anything herein to the contrary, the Holder shall not be required to physically surrender this Warrant to the Company until the Holder has purchased all of the Warrant Shares available hereunder and the Warrant has been exercised in full, in which case, the Holder shall surrender this Warrant to the Company for cancellation within three (3) Trading Days of the date the final Notice of Exercise is delivered to the Company. Partial exercises of this Warrant resulting in purchases of a portion of the total number of Warrant Shares available hereunder shall have the effect of lowering the outstanding number of Warrant Shares purchasable hereunder in an amount equal to the applicable number of Warrant Shares purchased. The Company shall maintain records showing the number of Warrant Shares purchased and the date of such purchases. The Company shall deliver any objection to any Notice of Exercise within one (1) Business Day of receipt of such notice. **The Holder and any assignee, by acceptance of this Warrant, acknowledge and agree that, by reason of the provisions of this paragraph, following the purchase of a portion of the Warrant Shares hereunder, the number of Warrant Shares available for purchase hereunder at any given time may be less than the amount stated on the face hereof.**

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b ) Exercise Price. The exercise price per share of the Common Stock under this Warrant shall be \$7.52, subject to adjustment hereunder (the "Exercise Price").

c ) Cashless Exercise. Notwithstanding anything contained herein to the contrary, if a registration statement covering the resale of the Warrant Shares subject to the applicable Notice of Exercise is not available for the resale of such Warrant Shares, at any time after the six month anniversary of the Initial Exercise Date, this Warrant may be exercised, in whole or in part, at any time or times on or after the Initial Exercise Date and on or before the Termination Date at the election of the Holder (in such Holder's sole discretion) by means of a "cashless exercise" in which the Holder shall be entitled to receive a number of Warrant Shares equal to the quotient obtained by dividing  $((A-B) * (X))$  by (A), where:

(A) = as applicable: (i) the VWAP on the Trading Day immediately preceding the date of the applicable Notice of Exercise if such Notice of Exercise is (1) both executed and delivered pursuant to Section 2(a) hereof on a day that is not a Trading Day or (2) both executed and delivered pursuant to Section 2(a) hereof on a Trading Day prior to the opening of "regular trading hours" (as defined in Rule 600(b)(64) of Regulation NMS promulgated under the federal securities laws) on such Trading Day, (ii) at the option of the Holder, either (y) the VWAP on the Trading Day immediately preceding the date of the applicable Notice of Exercise or (z) the Bid Price of the Common Stock on the principal Trading Market as reported by Bloomberg L.P. as of the time of the Holder's execution of the applicable Notice of Exercise if such Notice of Exercise is executed during "regular trading hours" on a Trading Day and is delivered within two (2) hours thereafter (including until two (2) hours after the close of "regular trading hours" on a Trading Day) pursuant to Section 2(a) hereof or (iii) the VWAP on the date of the applicable Notice of Exercise if the date of such Notice of Exercise is a Trading Day and such Notice of Exercise is both executed and delivered pursuant to Section 2(a) hereof after the close of "regular trading hours" on such Trading Day;

(B) = the Exercise Price of this Warrant, as adjusted hereunder; and

(X) = the number of Warrant Shares that would be issuable upon exercise of this Warrant in accordance with the terms of this Warrant if such exercise were by means of a cash exercise rather than a cashless exercise.

If Warrant Shares are issued in such a cashless exercise, the parties acknowledge and agree that in accordance with Section 3(a)(9) of the Securities Act, the Warrant Shares shall take on the characteristics of the Warrants being exercised, and the holding period of the Warrant Shares being issued may be tacked on to the holding period of this Warrant. The Company agrees not to take any position contrary to this Section 2(c).

“Bid Price” means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading Market, the bid price of the Common Stock for the time in question (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg L.P. (based on a Trading Day from 9:30 a.m. (New York City time) to 4:02 p.m. (New York City time)), (b) if OTCQB or OTCQX is not a Trading Market, the volume weighted average price of the Common Stock for such date (or the nearest preceding date) on OTCQB or OTCQX as applicable, (c) if the Common Stock is not then listed or quoted for trading on OTCQB or OTCQX and if prices for the Common Stock are then reported in the “Pink Sheets” published by OTC Markets Group, Inc. (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of the Common Stock so reported, or (d) in all other cases, the fair market value of a share of Common Stock as determined by an independent appraiser selected in good faith by the Holder and reasonably acceptable to the Company, the fees and expenses of which shall be paid by the Company.

“VWAP” means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading Market, the daily volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg L.P. (based on a Trading Day from 9:30 a.m. (New York City time) to 4:02 p.m. (New York City time)), (b) if OTCQB or OTCQX is not a Trading Market, the volume weighted average price of the Common Stock for such date (or the nearest preceding date) on OTCQB or OTCQX as applicable, (c) if the Common Stock is not then listed or quoted for trading on OTCQB or OTCQX and if prices for the Common Stock are then reported in the “Pink Sheets” published by OTC Markets Group, Inc. (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of the Common Stock so reported, or (d) in all other cases, the fair market value of a share of Common Stock as determined by an independent appraiser selected in good faith by the Holder and reasonably acceptable to the Company, the fees and expenses of which shall be paid by the Company.

Notwithstanding anything herein to the contrary, on the Termination Date, if a registration statement covering the resale of the Warrant Shares is not available for the resale of the Warrant Shares, this Warrant shall be automatically exercised via cashless exercise pursuant to this Section 2(c).

d) Mechanics of Exercise.

- i. Delivery of Warrant Shares Upon Exercise. Warrant Shares purchased hereunder shall be transmitted by the Transfer Agent to the Holder by crediting the account of the Holder's or its designee's balance account with The Depository Trust Company through its Deposit or Withdrawal at Custodian system ("DWAC") if the Company is then a participant in such system and either (A) there is an effective registration statement permitting the issuance of the Warrant Shares to or resale of the Warrant Shares by the Holder or (B) the Warrant Shares are eligible for resale by the Holder without volume or manner-of-sale limitations pursuant to Rule 144, and otherwise by physical delivery of a certificate, registered in the Company's share register in the name of the Holder or its designee, for the number of Warrant Shares to which the Holder is entitled pursuant to such exercise to the address specified by the Holder in the Notice of Exercise by the date that is the earlier of (i) two (2) Trading Days after the delivery to the Company of the Notice of Exercise and (ii) one (1) Trading Day after delivery of the aggregate Exercise Price to the Company (such date, the "Warrant Share Delivery Date"). Upon delivery of the Notice of Exercise, 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, irrespective of the date of delivery of the Warrant Shares, provided that payment of the aggregate Exercise Price (other than in the case of a cashless exercise) is received within two (2) Trading following delivery of the Notice of Exercise. If the Company fails for any reason to deliver to the Holder the Warrant Shares subject to a Notice of Exercise by the Warrant Share Delivery Date, the Company shall pay to the Holder, in cash, as liquidated damages and not as a penalty, for each \$1,000 of Warrant Shares subject to such exercise (based on the VWAP of the Common Stock on the date of the applicable Notice of Exercise), \$10 per Trading Day (increasing to \$20 per Trading Day on the fifth Trading Day after such liquidated damages begin to accrue) for each Trading Day commencing one Trading Day after such Warrant Share Delivery Date until such Warrant Shares are delivered or Holder rescinds such exercise. The Company agrees to maintain a transfer agent that is a participant in the FAST program so long as this Warrant remains outstanding and exercisable.

ii. Delivery of New Warrants Upon Exercise. If this Warrant shall have been exercised in part, the Company shall, at the request of a Holder and upon surrender of this Warrant certificate, at the time of delivery of the Warrant Shares, deliver to the Holder a new Warrant evidencing the rights of the Holder to purchase the unpurchased Warrant Shares called for by this Warrant, which new Warrant shall in all other respects be identical with this Warrant.

iii. Rescission Rights. If the Company fails to cause the Transfer Agent to transmit to the Holder the Warrant Shares pursuant to Section 2(d)(i) by the Warrant Share Delivery Date, then the Holder will have the right to rescind such exercise.

iv. Compensation for Buy-In on Failure to Timely Deliver Warrant Shares Upon Exercise. In addition to any other rights available to the Holder, if the Company fails to cause the Transfer Agent to transmit to the Holder the Warrant Shares in accordance with the provisions of Section 2(d)(i) above pursuant to an exercise on or before the Warrant Share Delivery Date, and if after such date the Holder is required by its broker to purchase (in an open market transaction or otherwise) or the Holder's brokerage firm otherwise purchases, shares of Common Stock to deliver in satisfaction of a sale by the Holder of the Warrant Shares which the Holder anticipated receiving upon such exercise (a "Buy-In"), then the Company shall (A) pay in cash to the Holder the amount, if any, by which (x) the Holder's total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased exceeds (y) the amount obtained by multiplying (1) the number of Warrant Shares that the Company was required to deliver to the Holder in connection with the exercise at issue times (2) the price at which the sell order giving rise to such purchase obligation was executed, and (B) at the option of the Holder, either reinstate the portion of the Warrant and equivalent number of Warrant Shares for which such exercise was not honored (in which case such exercise shall be deemed rescinded) or deliver to the Holder the number of shares of Common Stock that would have been issued had the Company timely complied with its exercise and delivery obligations hereunder. For example, if the Holder purchases Common Stock having a total purchase price of \$11,000 to cover a Buy-In with respect to an attempted exercise of shares of Common Stock with an aggregate sale price giving rise to such purchase obligation of \$10,000, under clause (A) of the immediately preceding sentence the Company shall be required to pay the Holder \$1,000. The Holder shall provide the Company written notice indicating the amounts payable to the Holder in respect of the Buy-In and, upon request of the Company, evidence of the amount of such loss. Nothing herein shall limit a Holder's right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Company's failure to timely deliver shares of Common Stock upon exercise of the Warrant as required pursuant to the terms hereof.

v. No Fractional Shares or Scrip. No fractional shares or scrip representing fractional shares shall be issued upon the exercise of this Warrant. As to any fraction of a share which the Holder would otherwise be entitled to purchase upon such exercise, the Company shall, at its election, either pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the Exercise Price or round up to the next whole share.

vi. Charges, Taxes and Expenses. Issuance of Warrant Shares shall be made without charge to the Holder for any issue or transfer tax or other incidental expense in respect of the issuance of such Warrant Shares, all of which taxes and expenses shall be paid by the Company, and such Warrant Shares shall be issued in the name of the Holder or in such name or names as may be directed by the Holder; provided, however, that in the event that Warrant Shares are to be issued in a name other than the name of the Holder, this Warrant when surrendered for exercise shall be accompanied by the Assignment Form attached hereto duly executed by the Holder and the Company may require, as a condition thereto, the payment of a sum sufficient to reimburse it for any transfer tax incidental thereto. The Company shall pay all Transfer Agent fees required for same-day processing of any Notice of Exercise and all fees to the Depository Trust Company (or another established clearing corporation performing similar functions) required for same-day electronic delivery of the Warrant Shares.

vii. Closing of Books. The Company will not close its stockholder books or records in any manner which prevents the timely exercise of this Warrant, pursuant to the terms hereof.

e) Holder's Exercise Limitations. Notwithstanding anything to the contrary contained herein, the Company shall not effect any exercise of this Warrant, and a Holder shall not have the right to exercise any portion of this Warrant, pursuant to Section 2 or otherwise, to the extent that after giving effect to such issuance after exercise as set forth on the applicable Notice of Exercise, the Holder (together with the Holder's Affiliates, and any other Persons acting as a group together with the Holder or any of the Holder's Affiliates (such Persons, "Attribution Parties")), would beneficially own in excess of the Beneficial Ownership Limitation (as defined below). For purposes of the foregoing sentence, the number of shares of Common Stock beneficially owned by the Holder and its Affiliates and Attribution Parties shall include the number of shares of Common Stock issuable upon exercise of this Warrant with respect to which such determination is being made, but shall exclude the number of shares of Common Stock which would be issuable upon (i) exercise of the remaining, nonexercised portion of this Warrant beneficially owned by the Holder or any of its Affiliates or Attribution Parties and (ii) exercise or conversion of the unexercised or nonconverted portion of any other securities of the Company (including, without limitation, any other Common Stock Equivalents (as defined below)) subject to a limitation on

conversion or exercise analogous to the limitation contained herein beneficially owned by the Holder or any of its Affiliates or Attribution Parties. Except as set forth in the preceding sentence, for purposes of this Section 2(e), beneficial ownership shall be calculated in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder, it being acknowledged by the Holder that the Company is not representing to the Holder that such calculation is in compliance with Section 13(d) of the Exchange Act and the Holder is solely responsible for any schedules required to be filed in accordance therewith. To the extent that the limitation contained in this Section 2(e) applies, the determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder together with any Affiliates and Attribution Parties) and of which portion of this Warrant is exercisable shall be in the sole discretion of the Holder, and the submission of a Notice of Exercise shall be deemed to be the Holder's determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder together with any Affiliates and Attribution Parties) and of which portion of this Warrant is exercisable, in each case subject to the Beneficial Ownership Limitation, and the Company shall have no obligation to verify or confirm the accuracy of such determination. In addition, a determination as to any group status as contemplated above shall be determined in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. For purposes of this Section 2(e), in determining the number of outstanding shares of Common Stock, a Holder may rely on the number of outstanding shares of Common Stock as reflected in (A) the Company's most recent periodic or annual report filed with the Commission, as the case may be, (B) a more recent public announcement by the Company or (C) a more recent written notice by the Company or the Transfer Agent setting forth the number of shares of Common Stock outstanding. Upon the written or oral request of a Holder, the Company shall within two Trading Days confirm orally and in writing to the Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Company, including this Warrant, by the Holder or its Affiliates or Attribution Parties since the date as of which such number of outstanding shares of Common Stock was reported. The "Beneficial Ownership Limitation" shall be 9.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock issuable upon exercise of this Warrant. The Holder, upon notice to the Company, may waive the Beneficial Ownership Limitation provisions of this Section 2(e), provided that such waiver (i) will not be effective until the 61<sup>st</sup> day after such notice is delivered to the Company, and (ii) will not be effective to the extent such waiver would require the prior approval of the Company's stockholders, unless such approval has been obtained. If such stockholder approval is required and has not been obtained, the Company shall use its commercially reasonable efforts to timely obtain such stockholder approval. The provisions of this paragraph shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 2(e) to correct this paragraph (or any portion hereof) which may be defective or inconsistent with the intended Beneficial Ownership Limitation herein contained or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitations contained in this paragraph shall apply to a successor holder of this Warrant. "Common Stock Equivalents" means any securities of the Company or its subsidiaries which would entitle the holder thereof to acquire at any time Common Stock, including, without limitation, any debt, preferred stock, right, option, warrant or other instrument that is at any time convertible into, or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock.

Section 3. Certain Adjustments.

a) Stock Dividends and Splits. If the Company, at any time while this Warrant is outstanding: (i) pays a stock dividend or otherwise makes a distribution or distributions on shares of its Common Stock or any other equity or equity equivalent securities payable in shares of Common Stock (which, for avoidance of doubt, shall not include any shares of Common Stock issued by the Company upon exercise of this Warrant), (ii) subdivides outstanding shares of Common Stock into a larger number of shares, (iii) combines (including by way of reverse stock split) outstanding shares of Common Stock into a smaller number of shares or (iv) issues by reclassification of shares of the Common Stock any shares of capital stock of the Company, then in each case the Exercise Price shall be multiplied by a fraction of which the numerator shall be the number of shares of Common Stock (excluding treasury shares, if any) outstanding immediately before such event and of which the denominator shall be the number of shares of Common Stock outstanding immediately after such event, and the number of shares issuable upon exercise of this Warrant shall be proportionately adjusted such that the aggregate Exercise Price of this Warrant shall remain unchanged. Any adjustment made pursuant to this Section 3(a) shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution and shall become effective immediately after the effective date in the case of a subdivision, combination or re-classification.

b) [INTENTIONALLY OMITTED]

c) Subsequent Rights Offerings. In addition to any adjustments pursuant to Section 3(a) above, if at any time after the Original Issue Date the Company grants, issues or sells any Common Stock Equivalents or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of shares of Common Stock (the "Purchase Rights"), then each Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could have acquired if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on exercise hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the grant, issue or sale of such Purchase Rights (provided, however, to the extent that the Holder's right to participate in any such Purchase Right would result in the Holder exceeding the Beneficial Ownership Limitation and the Beneficial Ownership Limitation is not waived by the Holder, then the Holder shall not be entitled to participate in such Purchase Right to such extent (or beneficial ownership of such shares of Common Stock as a result of such Purchase Right to such extent) and such Purchase Right to such extent shall be held in abeyance for the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation).

d) Pro Rata Distributions. During such time as this Warrant is outstanding, if the Company shall declare or make any dividend or other distribution of its assets (or rights to acquire its assets) to holders of shares of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property or options by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction, but excluding any dividend that results in adjustment to the Conversion Price pursuant to Section 3(a) above) (a "Distribution"), at any time after the issuance of this Warrant, then, in each such case, the Holder shall be entitled to participate in such Distribution to the same extent that the Holder would have participated therein if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on exercise hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date of which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the participation in such Distribution (provided, however, to the extent that the Holder's right to participate in any such Distribution would result in the Holder exceeding the Beneficial Ownership Limitation and the Beneficial Ownership Limitation is not waived by the Holder, then the Holder shall not be entitled to participate in such Distribution to such extent (or in the beneficial ownership of any shares of Common Stock as a result of such Distribution to such extent) and the portion of such Distribution shall be held in abeyance for the benefit of the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation).

e) 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, (ii) the Company, directly or indirectly, effects any sale, lease, license, assignment, transfer, conveyance 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, (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, or (v) the Company, directly or indirectly, in one or more related transactions consummates a stock or share purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with another Person or group of Persons whereby such other Person or group acquires more than 50% of the outstanding shares of Common Stock (not including any shares of Common Stock held by the other Person or other Persons making or party to, or associated or affiliated with the other Persons making or party to, such stock or share purchase agreement or other business combination) (each a "Fundamental Transaction"), then, the Holder shall have the right to receive, for each Warrant Share that would have been issuable upon such exercise immediately prior to the occurrence of such Fundamental Transaction (as if the exercise of the Warrant occurred immediately prior to the occurrence of such Fundamental Transaction), at the option of the Holder (without regard to any limitation in Section 2(e) on the exercise of this Warrant), the number of shares of common stock of the successor or acquiring corporation or shares of Common Stock of the Company, if it is the surviving corporation, and any additional consideration (the "Alternate Consideration") receivable as a result of such Fundamental Transaction by a holder of the number of shares of Common Stock for which this Warrant is exercisable immediately prior to such Fundamental Transaction (without regard to any limitation in Section 2(e) on the exercise of this Warrant). For purposes of any such exercise, the determination of the Exercise Price shall be appropriately adjusted to apply to such Alternate Consideration based on the amount of Alternate Consideration issuable in respect of one share of Common Stock in such Fundamental Transaction, and the Company shall apportion the Exercise Price among the Alternate Consideration in a reasonable manner reflecting the relative value of any different components of the Alternate Consideration. If holders of Common Stock are given any choice as to the securities, cash or property to be received in a Fundamental Transaction, then the Holder shall be given the same choice as to the Alternate Consideration it receives upon any exercise of this Warrant following such Fundamental Transaction.

f) Calculations. All calculations under this Section 3 shall be made to the nearest cent or the nearest 1/100th of a share, as the case may be. For purposes of this Section 3, the number of shares of Common Stock deemed to be issued and outstanding as of a given date shall be the sum of the number of shares of Common Stock (excluding treasury shares, if any) issued and outstanding.

g) Notice to Holder.

i. Adjustment to Exercise Price. Whenever the Exercise Price is adjusted pursuant to any provision of this Section 3, the Company shall within two (2) Trading Days deliver to the Holder by facsimile or email a notice setting forth the Exercise Price after such adjustment and any resulting adjustment to the number of Warrant Shares and setting forth a brief statement of the facts requiring such adjustment.

ii. Notice to Allow Exercise by Holder. If (A) the Company shall declare a dividend (or any other distribution in whatever form) on the Common Stock, (B) the Company shall declare a special nonrecurring cash dividend on or a redemption of the Common Stock, (C) the Company shall authorize the granting to all holders of the Common Stock rights or warrants to subscribe for or purchase any shares of capital stock of any class or of any rights, (D) the approval of any stockholders of the Company shall be required in connection with any reclassification of the Common Stock, any consolidation or merger to which the Company is a party, any sale or transfer of all or substantially all of the assets of the Company, or any compulsory share exchange whereby the Common Stock is converted into other securities, cash or property, or (E) the Company shall authorize the voluntary or involuntary dissolution, liquidation or winding up of the affairs of the Company, then, in each case, the Company shall cause to be delivered by facsimile or email to the Holder at its last facsimile number or email address as it shall appear upon the Warrant Register of the Company, at least 20 calendar days prior to the applicable record or effective date hereinafter specified, a notice stating (x) the date on which a record is to be taken for the purpose of such dividend, distribution, redemption, rights or warrants, or if a record is not to be taken, the date as of which the holders of the Common Stock of record to be entitled to such dividend, distributions, redemption, rights or warrants are to be determined or (y) the date on which such reclassification, consolidation, merger, sale, transfer or share exchange is expected to become effective or close, and the date as of which it is expected that holders of the Common Stock of record shall be entitled to exchange their shares of the Common Stock for securities, cash or other property deliverable upon such reclassification, consolidation, merger, sale, transfer or share exchange; provided that the failure to deliver such notice or any defect therein or in the delivery thereof shall not affect the validity of the corporate action required to be specified in such notice. To the extent that any notice provided in this Warrant constitutes, or contains, material, non-public information regarding the Company or any of the Subsidiaries, the Company shall simultaneously file such notice with the Commission pursuant to a Current Report on Form 8-K. The Holder shall remain entitled to exercise this Warrant during the period commencing on the date of such notice to the effective date of the event triggering such notice except as may otherwise be expressly set forth herein.

#### Section 4. Transfer of Warrant.

a) Transferability. Subject to compliance with any applicable securities laws and the conditions set forth in Section 4(d) hereof and to the provisions of Section 4(a) of the Warrant Exercise Agreement, this Warrant and all rights hereunder are transferable, in whole or in part, upon surrender of this Warrant at the principal office of the Company or its designated agent, together with a written assignment of this Warrant substantially in the form attached hereto duly executed by the Holder or its agent or attorney and funds sufficient to pay any transfer taxes payable upon the making of such transfer. Upon such surrender and, if required, such payment, the Company shall execute and deliver a new Warrant or Warrants in the name of the assignee or assignees, as applicable, and in the denomination or denominations specified in such instrument of assignment, and shall issue to the assignor a new Warrant evidencing the portion of this Warrant not so assigned, and this Warrant shall promptly be cancelled. Notwithstanding anything herein to the contrary, the Holder shall not be required to physically surrender this Warrant to the Company unless the Holder has assigned this Warrant in full, in which case, the Holder shall surrender this Warrant to the Company within three (3) Trading Days of the date the Holder delivers an assignment form to the Company assigning this Warrant full. The Warrant, if properly assigned in accordance herewith, may be exercised by a new holder for the purchase of Warrant Shares without having a new Warrant issued.

b ) New Warrants. This Warrant may be divided or combined with other Warrants upon presentation hereof at the aforesaid office of the Company, together with a written notice specifying the names and denominations in which new Warrants are to be issued, signed by the Holder or its agent or attorney. Subject to compliance with Section 4(a), as to any transfer which may be involved in such division or combination, the Company shall execute and deliver a new Warrant or Warrants in exchange for the Warrant or Warrants to be divided or combined in accordance with such notice. All Warrants issued on transfers or exchanges shall be dated the original issue date and shall be identical with this Warrant except as to the number of Warrant Shares issuable pursuant thereto.

c ) Warrant Register. The Company shall register this Warrant, upon records to be maintained by the Company for that purpose (the "Warrant Register"), in the name of the record Holder hereof from time to time. The Company may deem and treat the registered Holder of this Warrant as the absolute owner hereof for the purpose of any exercise hereof or any distribution to the Holder, and for all other purposes, absent actual notice to the contrary.

d ) Transfer Restrictions. If, at the time of the surrender of this Warrant in connection with any transfer of this Warrant, the transfer of this Warrant shall not be either (i) registered pursuant to an effective registration statement under the Securities Act and under applicable state securities or blue sky laws or (ii) eligible for resale without volume or manner-of-sale restrictions or current public information requirements pursuant to Rule 144, the Company may require, as a condition of allowing such transfer, that the Holder or transferee of this Warrant, as the case may be, comply with the provisions of Section 4(a) of the Warrant Exercise Agreement.

e ) Representation by the Holder. The Holder, by the acceptance hereof, represents and warrants that it is acquiring this Warrant and, upon any exercise hereof, will acquire the Warrant Shares issuable upon such exercise, for its own account and not with a view to or for distributing or reselling such Warrant Shares or any part thereof in violation of the Securities Act or any applicable state securities law, except pursuant to sales registered or exempted under the Securities Act.

Section 5. Miscellaneous.

a ) No Rights as Stockholder Until Exercise. This Warrant does not entitle the Holder to any voting rights, dividends or other rights as a stockholder of the Company prior to the exercise hereof as set forth in Section 2(d)(i), except as expressly set forth in Section 3.

b ) Loss, Theft, Destruction or Mutilation of Warrant. The Company covenants that upon receipt by the Company of evidence reasonably satisfactory to it of the loss, theft, destruction or mutilation of this Warrant or any stock certificate relating to the Warrant Shares, and in case of loss, theft or destruction, of indemnity or security reasonably satisfactory to it (which, in the case of the Warrant, shall not include the posting of any bond), and upon surrender and cancellation of such Warrant or stock certificate, if mutilated, the Company will make and deliver a new Warrant or stock certificate of like tenor and dated as of such cancellation, in lieu of such Warrant or stock certificate.

c ) Saturdays, Sundays, Holidays, etc. If the last or appointed day for the taking of any action or the expiration of any right required or granted herein shall not be a Business Day, then, such action may be taken or such right may be exercised on the next succeeding Business Day.

d) Authorized Shares.

1. During the period the Warrant is outstanding from and after the Initial Exercise Date, the Company covenants that it will reserve from its authorized and unissued Common Stock a sufficient number of shares to provide for the issuance of the Warrant Shares upon the exercise of any purchase rights under this Warrant. The Company further covenants that its issuance of this Warrant shall constitute full authority to its officers who are charged with the duty of issuing the necessary Warrant Shares upon the exercise of the purchase rights under this Warrant. 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, or of any requirements of the Trading Market upon which the Common Stock may be listed. The Company covenants that all Warrant Shares which may be issued upon the exercise of the purchase rights represented by this Warrant will, upon exercise of the purchase rights represented by this Warrant and payment for such Warrant Shares in accordance herewith, be duly authorized, validly issued, fully paid and nonassessable and free from all taxes, liens and charges created by the Company in respect of the issue thereof (other than taxes in respect of any transfer occurring contemporaneously with such issue).

2. Except and to the extent as waived or consented to by the Holder, the Company shall not by any action, including, without limitation, amending its certificate of incorporation 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 of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such actions as may be necessary or appropriate to protect the rights of Holder as set forth in this Warrant against impairment. Without limiting the generality of the foregoing, the Company will (i) not increase the par value of any Warrant Shares above the amount payable therefor upon such exercise immediately prior to such increase in par value, (ii) take all such action as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable Warrant Shares upon the exercise of this Warrant and (iii) use commercially reasonable efforts to obtain all such authorizations, exemptions or consents from any public regulatory body having jurisdiction thereof, as may be, necessary to enable the Company to perform its obligations under this Warrant.

3. Before taking any action which would result in an adjustment in the number of Warrant Shares for which this Warrant is exercisable or in the Exercise Price, the Company shall obtain all such authorizations or exemptions thereof, or consents thereto, as may be necessary from any public regulatory body or bodies having jurisdiction thereof.

e ) Jurisdiction. All questions concerning the construction, validity, enforcement and interpretation of this Warrant shall be determined in accordance with the provisions of the Warrant Exercise Agreement.

f) Restrictions. The Holder acknowledges that the Warrant Shares acquired upon the exercise of this Warrant, if not registered and the Holder does not utilize cashless exercise, will have restrictions upon resale imposed by state and federal securities laws.

g) Nonwaiver and Expenses. No course of dealing or any delay or failure to exercise any right hereunder on the part of Holder shall operate as a waiver of such right or otherwise prejudice the Holder's rights, powers or remedies, notwithstanding the fact that all rights hereunder terminate on the Termination Date. If the Company willfully and knowingly fails to comply with any provision of this Warrant, which results in any material damages to the Holder, the Company shall pay to the Holder such amounts as shall be sufficient to cover any costs and expenses including, but not limited to, reasonable attorneys' fees, including those of appellate proceedings, incurred by the Holder in collecting any amounts due pursuant hereto or in otherwise enforcing any of its rights, powers or remedies hereunder.

h) Notices. Any notice, request or other document required or permitted to be given or delivered to the Holder by the Company shall be delivered in accordance with the notice provisions of the Warrant Exercise Agreement.

i) Limitation of Liability. No provision hereof, in the absence of any affirmative action by the Holder to exercise this Warrant to purchase Warrant Shares, and no enumeration herein of the rights or privileges of the Holder, shall give rise to any liability of the Holder for the purchase price of any Common Stock or as a stockholder of the Company, whether such liability is asserted by the Company or by creditors of the Company.

j) Remedies. The Holder, in addition to being entitled to exercise all rights granted by law, including recovery of damages, will be entitled to specific performance of its rights under this Warrant. The Company agrees that monetary damages would not be adequate compensation for any loss incurred by reason of a breach by it of the provisions of this Warrant and hereby agrees to waive and not to assert the defense in any action for specific performance that a remedy at law would be adequate.

k ) Successors and Assigns. Subject to applicable securities laws, this Warrant and the rights and obligations evidenced hereby shall inure to the benefit of and be binding upon the successors and permitted assigns of the Company and the successors and permitted assigns of Holder. The provisions of this Warrant are intended to be for the benefit of any Holder from time to time of this Warrant and shall be enforceable by the Holder or holder of Warrant Shares.

l ) Amendment. This Warrant may be modified or amended or the provisions hereof waived with the written consent of the Company and the Holder.

m) Severability. Wherever possible, each provision of this Warrant shall be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Warrant shall be prohibited by or invalid under applicable law, such provision shall be ineffective to the extent of such prohibition or invalidity, without invalidating the remainder of such provisions or the remaining provisions of this Warrant.

n ) 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.

\*\*\*\*\*

*(Signature Page Follows)*

IN WITNESS WHEREOF, the Company has caused this Warrant to be executed by its officer thereunto duly authorized as of the date first above indicated.

**AMYRIS, INC.**

By: /s/ Kathleen Valiasek

Name: Kathleen Valiasek

Title: Chief Financial Officer

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**NOTICE OF EXERCISE**

TO: AMYRIS, INC.

(1) The undersigned hereby elects to purchase \_\_\_\_\_ Warrant Shares of the Company pursuant to the terms of the attached Warrant (only if exercised in full), and tenders herewith payment of the exercise price in full, together with all applicable transfer taxes, if any.

(2) Applicable Exercise Price: \$ \_\_\_\_\_

(3) Payment shall take the form of (check applicable box):

in lawful money of the United States; or

the cancellation of such number of Warrant Shares as is necessary, in accordance with the formula set forth in subsection 2(c), to exercise this Warrant with respect to the maximum number of Warrant Shares purchasable pursuant to the cashless exercise procedure set forth in subsection 2(c).

(4) Please issue said Warrant Shares in the name of the undersigned or in such other name as is specified below:

\_\_\_\_\_

The Warrant Shares shall be delivered to the following DWAC Account Number:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(4) Accredited Investor. The undersigned is an "accredited investor" as defined in Regulation D promulgated under the Securities Act of 1933, as amended.

[SIGNATURE OF HOLDER]

Name of Investing Entity: \_\_\_\_\_

*Signature of Authorized Signatory of Investing Entity:* \_\_\_\_\_

Name of Authorized Signatory: \_\_\_\_\_

Title of Authorized Signatory: \_\_\_\_\_

Date: \_\_\_\_\_



ASSIGNMENT FORM

*(To assign the foregoing Warrant, execute this form and supply required information. Do not use this form to purchase shares.)*

FOR VALUE RECEIVED, the foregoing Warrant and all rights evidenced thereby are hereby assigned to

Name: \_\_\_\_\_  
(Please Print)

Address: \_\_\_\_\_  
(Please Print)

Phone Number: \_\_\_\_\_

Email Address: \_\_\_\_\_

Dated: \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

Holder's Signature: \_\_\_\_\_

Holder's Address: \_\_\_\_\_

## AMENDMENT NO 1 TO LOAN AGREEMENT

EFFECTIVE DATE: August 24, 2018

PARTIES: Borrower: Amyris, Inc., a Delaware corporation (“Amyris”) and Amyris Fuels, LLC, a Delaware limited liability company (“Fuels”)  
 Lender: GACP Finance Co., LLC., a Delaware limited liability company

## RECITALS

A. Lender has extended credit (the “Loan”) to Borrower in the original principal amount of Thirty-Six Million Dollars (\$36,000,000) pursuant to that certain Loan and Security Agreement, dated as of June 29, 2018, as modified by that certain First Modification Agreement, effective as of June 29, 2018 (the “Loan Agreement”), each by and among by Borrower, each “Subsidiary Guarantor” party thereto, the several banks and other financial institutions or entities from time to time parties thereto (collectively, referred to as “Lender”) and GACP Finance Co., LLC., a Delaware limited liability company, in its capacity as administrative agent for itself and the Lender (in such capacity, the “Agent”).

B. Borrower and Lender desire to make a technical amendment to the definition of Borrowing Base in the Loan Agreement.

C. The term “Loan Documents” and each other capitalized term used but not defined herein has the meaning given to such term in the Loan Agreement.

## AGREEMENT

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Borrower and Lender agree as follows:

1. Amendment to Loan Agreement. Effective as of the Effective Date hereof, the Loan Agreement is modified as follows:

1.1 Section 1.1 of the Loan Agreement is hereby amended by deleting the definition of “Borrowing Base” in its entirety and replacing it with the following:

“Borrowing Base” means, at any time, with respect to Borrower, the sum of (i) all Cash and Cash Equivalents in one or more Deposit Accounts located in the United States and subject to an Account Control Agreement in favor of Agent provided that no Account Control Agreement shall be required to be in place until the seventh day after the Closing Date, plus (ii) the outstanding principal amount of all Eligible Accounts Receivable, plus (iii) the current net book value of Eligible Property, Plant and Equipment, plus (iv) the product of 0.25 and the then-current appraised value of all Intellectual Property, provided that for the first ninety (90) after the Closing Date, the Intellectual Property shall be deemed to have an appraised value of \$100,000,000 and thereafter until there shall be an appraised value for the Intellectual Property the Intellectual Property shall be deemed to

have an appraised value of \$0.00; provided further that the sum of the foregoing clauses (i) through (iii) shall not equal to an amount less than the greater of (a) 75.0% of the then outstanding Term Loan principal balance and (b) \$25,000,000.

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1.2 Exhibit F to the Loan Agreement is hereby amended by deleting such Exhibit in its entirety and replacing it with Exhibit F hereto.

1.3 Each reference in the Loan Documents to the Loan Agreement is a reference to such document as modified herein.

2. Representations and Warranties. Borrower represents and warrants to Lender:

2.1 No Event of Default under any of the Loan Documents as modified herein, nor any event, that, with the giving of notice or the passage of time or both, would be an Event of Default under the Loan Documents as modified herein has occurred and is continuing.

2.2 There has been no material adverse change in the financial condition of Borrower or any other person whose financial statement has been delivered to Lender in connection with the Loan from the most recent financial statement received by Lender.

2.3 The Loan Documents as modified herein are the legal, valid, and binding obligation of Borrower, enforceable against Borrower in accordance with their terms, except as such enforceability may be limited by bankruptcy, insolvency, moratorium, reorganization, or similar laws or by equitable principals of general application.

3. Miscellaneous.

3.1 Before this Amendment becomes binding on Lender, Lender shall have received, in form and substance satisfactory to Lender, in Lender's sole and absolute discretion, fully executed, and if requested by Lender, acknowledged originals of this Amendment.

3.2 The Loan Documents are ratified and affirmed by Borrower and remain in full force and effect as modified herein. Any property or rights to or interests in property granted as security in the Loan Documents remain as security for the Loan and the obligations of Borrower in the Loan Documents.

3.3 The Loan Documents as modified herein contain the entire understanding and agreement of Borrower and Lender in respect of the Loan and supersede all prior representations, warranties, agreements, arrangements, and understandings with respect thereto. No provision of the Loan Documents as modified herein may be changed, discharged, supplemented, terminated, or waived except in a writing signed by Lender and Borrower.

3.4 Except as specifically provided in this Amendment, no implied consent involving any of the matters set forth in this Amendment or otherwise shall be inferred or implied by Lender's execution of this Amendment or any other action of Lender. Lender's execution of this Amendment shall not constitute a waiver, either express or implied, of the requirement that any further waiver with respect to or modification of the Loan or of the Loan Documents shall require the express written approval of Lender, as further set forth in the Loan Documents.

Lender's execution of this Amendment shall not constitute a waiver of any of the rights and remedies that Lender may have against Borrower, or of any of Lender's rights and remedies arising out of the Loan Documents and such rights and remedies are hereby expressly reserved.

3.5 In consideration of the agreements of Lender set forth in this Amendment, Borrower, and all of their respective heirs, personal representatives, predecessors, successors and assigns (individually and collectively, the "Releasors"), hereby fully, finally, and forever release and discharge Lender and its successors, assigns, directors, officers, employees, agents, and representatives from any and all actions, causes of action, claims, debts, demands, liabilities, obligations, and suits of whatever kind or nature, in law or equity, the Releasors or any of them have, whether known or unknown, in respect of the Loan Documents arising from events occurring prior to the date hereof.

3.1 This Amendment shall be governed by the laws of the State of California, excluding conflict of laws principles that would cause the application of laws of any other jurisdiction.

3.2 The Loan Documents as modified herein are binding upon, and inure to the benefit of, Borrower and Lender and their respective successors and assigns.

3.3 This Amendment may be executed in one or more counterparts, each of which is deemed an original and all of which together constitute one and the same document. Signature pages may be detached from the counterparts and attached to a single copy of this Amendment to physically form one document.

[SIGNATURE PAGE FOLLOWS]

DATED as of the date first above stated.

“Borrower”

AMYRIS, INC.

By: /s/ Kathleen Valiasek  
Name: \_\_\_\_\_  
Title: CFO

AMYRIS FUELS, LLC, a Delaware limited  
Liability company

By: /s/ Kathleen Valiasek  
Name: \_\_\_\_\_  
Title: CFO

GACP FINANCE CO., LLC., a Delaware limited  
Liability company

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

[Signature Page to Amendment No. 1 to Loan Agreement]

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DATED as of the date first above stated.

“Borrower”

AMYRIS, INC.

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

AMYRIS FUELS, LLC, a Delaware limited  
Liability company

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

GACP FINANCE CO., LLC., a Delaware limited  
Liability company

By: /s/ John Ahn \_\_\_\_\_  
Name: John Ahn \_\_\_\_\_  
Title: President \_\_\_\_\_

[Signature Page to Amendment No. 1 to Loan Agreement]

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EXHIBIT F

BORROWING BASE CERTIFICATE

GACP Finance Co., LLC (as "Agent")
11100 Santa Monica Blvd., Suite 800
Los Angeles, CA 90025

Reference is made to that certain Loan and Security Agreement dated June 29, 2018 and all ancillary documents entered into in connection with such Loan and Security Agreement all as may be amended from time to time, (hereinafter referred to collectively as the "Loan Agreement") by and among GACP Finance Co., LLC (the "Agent"), the several banks and other financial institutions or entities from time to time party thereto (collectively, the "Lender") and GACP Finance Co., LLC, as agent for the Lender (the "Agent") and Amyris, Inc. (the "Company") and each of its Subsidiaries that has delivered a Joinder Agreement (together with the Company, collectively, the "Borrower"). All capitalized terms not defined herein shall have the same meaning as defined in the Loan Agreement.

The undersigned is an Officer of the Company, knowledgeable of all Company financial matters, and is authorized to provide certification of information regarding the Company; hereby certifies the "Borrowing Base" as calculated in accordance with the terms and conditions of the Loan Agreement is equal to the sum of the following:

- (i) eligible Cash and Cash Equivalents: \$ \_\_\_\_\_
(ii) principal amount of all Eligible Accounts Receivable (listed an Exhibit A hereto): \$ \_\_\_\_\_
(iii) net book value of Eligible Property, Plant and Equipment:
sum of clauses (i), (ii) and (iii): \$ \_\_\_\_\_ \$ \_\_\_\_\_
(iv) 0.25 x the current appraised Intellectual Property value: \$ \_\_\_\_\_ \$ \_\_\_\_\_
Total: \$ \_\_\_\_\_ \$ \_\_\_\_\_

Is the sum of clauses (i), (ii) and (iii) less than the greater of (a) 75.0% of the then outstanding Term Loan principal balance and (b) \$25,000,000: \_\_\_\_\_ Yes (complies) \_\_\_\_\_ No

I further certify that to the best of my knowledge the accounts receivable set forth on Exhibit A hereto constitute Eligible Accounts Receivable within the meaning set forth in the Loan Agreement and the amounts set forth with respect to each constitutes the current outstanding principal balance.



Very Truly Yours,

AMYRIS, INC.

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_



**CERTIFICATION OF CHIEF EXECUTIVE OFFICER  
PURSUANT TO RULE 13a-14(c) and 15d-14(a) OF THE SECURITIES EXCHANGE ACT OF 1934**

I, John G. Melo, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Amyris, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
  - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (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 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: November 15, 2018

\_\_\_\_\_  
/s/ John G. Melo  
John G. Melo  
President and Chief Executive Officer

**CERTIFICATION OF CHIEF FINANCIAL OFFICER  
PURSUANT TO RULE 13a-14(c) and 15d-14(a) OF THE SECURITIES EXCHANGE ACT OF 1934**

I, Kathleen Valiasek, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Amyris, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
  - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (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 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: November 15, 2018

\_\_\_\_\_  
/s/ Kathleen Valiasek

Kathleen Valiasek  
Chief Financial Officer

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**Certification of CEO Furnished Pursuant to 18 U.S.C. Section 1350,  
As Adopted Pursuant To  
Section 906 of The Sarbanes-Oxley Act of 2002**

In connection with the Quarterly Report of Amyris, Inc. (the "Company") on Form 10-Q for the quarterly period ended September 30, 2018, as filed with the Securities and Exchange Commission on the date hereof, I, John G. Melo, Chief Executive Officer of the Company, certify for the purposes of section 1350 of chapter 63 of title 18 of the United States Code, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to the best of my knowledge,

(i) the Quarterly Report of the Company on Form 10-Q for the quarterly period ended September 30, 2018 (the "Report"), fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934, and

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

Date: November 15, 2018

/s/ John G. Melo

John G. Melo  
President and Chief Executive Officer  
*(Principal Executive Officer)*

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**Certification of CFO Furnished Pursuant to 18 U.S.C. Section 1350,  
As Adopted Pursuant To  
Section 906 of The Sarbanes-Oxley Act of 2002**

In connection with the Quarterly Report of Amyris, Inc. (the "Company") on Form 10-Q for the quarterly period ended September 30, 2018, as filed with the Securities and Exchange Commission on the date hereof, I, Kathleen Valiasek, Chief Financial Officer of the Company, certify for the purposes of section 1350 of chapter 63 of title 18 of the United States Code, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to the best of my knowledge,

(i) the Quarterly Report of the Company on Form 10-Q for the quarterly period ended September 30, 2018 (the "Report"), fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934, and

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

Date: November 15, 2018

\_\_\_\_\_  
/s/ Kathleen Valiasek  
Kathleen Valiasek  
Chief Financial Officer  
*(Principal Financial Officer)*

