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

FORM 10-Q

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

For the Quarterly Period Ended June 30, 2019

OR

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

For the transition period from to .

Commission file number: 001-37515

Aqua Metals, Inc.
(Exact name of registrant as specified in its charter)

Delaware	**47-1169572**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification no.)

2500 Peru Dr.
McCarran, Nevada 89437
(Address of principal executive offices, including zip code)

(775) 525-1936
(Registrant's telephone number, including area code)

Not Applicable
(Former name, former address and former fiscal year, if changed since last report)

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common stock: Par value $.001	AQMS	Nasdaq Capital Market

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 [X] 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 and post such files). Yes [X] No [ ]

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company (as defined in Rule 12b-2 of the Act):

Large accelerated filer [ ]	Accelerated filer [X]
Non-accelerated filer [ ]	Smaller reporting company [X]
	Emerging growth company [X]

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. [X]

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

As of July 24, 2019, there were 56,963,354 outstanding shares of the common stock of Aqua Metals, Inc.

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PART I - FINANCIAL INFORMATION

Item 1. Financial Statements

AQUA METALS, INC.
Condensed Consolidated Balance Sheets
(in thousands, except share and per share amounts)

	June 30, 2019 (unaudited)	December 31, 2018 (Note 2)
ASSETS		
Current assets		
Cash and cash equivalents	$ 27,312	$ 20,892
Accounts receivable, net	1,013	725
Inventory, net	1,742	765
Prepaid expenses and other current assets	580	370
Total current assets	30,647	22,752
Non-current assets		
Property and equipment, net	47,630	45,548
Intellectual property, net	1,089	1,271
Other assets	4,363	1,800
Total non-current assets	53,082	48,619
Total assets	$ 83,729	$ 71,371
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities		
Accounts payable	$ 5,447	$ 2,088
Accrued expenses	2,413	5,196
Lease liability, current portion	520	121
Deferred rent, current portion	—	8
Notes payable, current portion	272	311
Convertible note payable, current portion	—	4,075
Total current liabilities	8,652	11,799
Deferred rent, non-current portion	—	27
Lease liability, non-current portion	1,146	110
Asset retirement obligation	767	745
Notes payable, non-current portion	8,549	8,600
Total liabilities	19,114	21,281
Commitments and contingencies		
Stockholders' equity		
Common stock; $0.001 par value; 100,000,000 shares authorized; 56,889,876 and 38,932,437 shares issued and outstanding as of June 30, 2019 and December 31, 2018, respectively	57	39
Additional paid-in capital	181,863	145,147
Accumulated deficit	(117,305)	(95,096)
Total stockholders' equity	64,615	50,090
Total liabilities and stockholders' equity	$ 83,729	$ 71,371

The accompanying notes are an integral part of these condensed consolidated financial statements.

AQUA METALS, INC.
Condensed Consolidated Statements of Operations
(in thousands, except share and per share amounts)
(Unaudited)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
Product sales	$ 1,483	$ 483	$ 1,920	$ 2,209
Operating cost and expense				
Cost of product sales	7,185	4,600	11,866	10,036
Research and development cost	338	1,203	958	2,678
General and administrative expense	4,335	3,913	8,351	5,688
Total operating expense	11,858	9,716	21,175	18,402
Loss from operations	(10,375)	(9,233)	(19,255)	(16,193)
Other income and (expense)				
Interest expense	(203)	(719)	(3,092)	(1,306)
Interest and other income	77	25	140	42
Total other expense, net	(126)	(694)	(2,952)	(1,264)
Loss before income tax expense	(10,501)	(9,927)	(22,207)	(17,457)
Income tax expense	—	—	(2)	(2)
Net loss	$ (10,501)	$ (9,927)	$ (22,209)	$ (17,459)
Weighted average shares outstanding, basic and diluted	50,757,448	30,134,995	47,441,219	29,389,459
Basic and diluted net loss per share	$ (0.21)	$ (0.33)	$ (0.47)	$ (0.59)

The accompanying notes are an integral part of these condensed consolidated financial statements.

AQUA METALS, INC.
Condensed Consolidated Statements of Stockholders’ Equity (Deficit)
(Unaudited)
(in thousands, except share amounts)

	Common Stock		Additional Paid-in Capital	Accumulated Deficit	Total Stockholders' Equity (Deficit)
	Shares	Amount			
Balances, March 31, 2019	44,727,697	$ 45	$ 157,037	$ (106,804)	$ 50,278
Stock-based compensation	—	—	930	—	930
Warrants related to Veolia agreement	—	—	1,734	—	1,734
Common stock issued upon RSU vesting	39,350	—	—	—	—
Common stock issued for consulting services	1,122,829	1	1,856	—	1,857
Common stock issued in May 2019 public offering, net of $1,683 offering costs	11,000,000	11	20,306	—	$ 20,317
Net loss	—	—	—	(10,501)	(10,501)
Balances, June 30, 2019	56,889,876	$ 57	$ 181,863	$ (117,305)	$ 64,615
Balances, December 31, 2018	38,932,437	$ 39	$ 145,147	$ (95,096)	$ 50,090
Stock-based compensation	—	—	1,998	—	1,998
Warrants related to Veolia agreement	—	—	2,312	—	2,312
Common stock issued upon RSU vesting	357,168	—	—	—	—
Common stock issued for consulting services	1,425,271	2	3,042	—	3,044
Common stock issued in January 2019 public offering, net of $739 offering costs	5,175,000	5	9,058	—	9,063
Common stock issued in May 2019 public offering, net of $1,683 offering costs	11,000,000	11	20,306	—	$ 20,317
Net loss	—	—	—	(22,209)	(22,209)
Balances, June 30, 2019	56,889,876	$ 57	$ 181,863	$ (117,305)	$ 64,615
Balances, March 31, 2018	28,694,210	$ 29	$ 116,029	$ (62,374)	$ 53,684
Stock-based compensation	—	—	348	—	348
Common stock issued in June 2018 public offering, net of $2,096 offering costs	10,085,500	10	26,637	—	26,647
Modification of Interstate Battery warrant #1	—	—	1,002	—	1,002
Net loss	—	—	—	(9,927)	(9,927)
Balances, June 30, 2018	38,779,710	$ 39	$ 144,016	$ (72,301)	$ 71,754
Balances, December 31, 2017	27,554,076	$ 27	$ 113,780	$ (54,842)	$ 58,965

Stock-based compensation	—	—	492	—	492
Common stock issued under Officers and Directors Purchase Plan	2,034	—	4	—	4
Common stock issued upon RSU vesting	65,600	—	—	—	—
Common stock issued in overallotment related to December 2017 public offering, net of $10 transaction cost	1,072,500	2	2,101	—	2,103
Common stock issued in June 2018 public offering, net of $2,096 offering costs	10,085,500	10	26,637	—	26,647
Modification of Interstate Battery warrant #1	—	—	1,002	—	1,002
Net loss	—	—	—	(17,459)	(17,459)
Balances, June 30, 2018	38,779,710	$ 39 —	$ 144,016 —	$ (72,301) —	$ 71,754

The accompanying notes are an integral part of these condensed consolidated financial statements.

AQUA METALS, INC.
Condensed Consolidated Statements of Cash Flows
(Unaudited)
(in thousands)

	Six Months Ended June 30,	
	2019	**2018**
Cash flows from operating activities:		
Net loss	$ (22,209)	$ (17,459)
Reconciliation of net loss to net cash used in operating activities		
Depreciation	1,937	1,566
Amortization of intellectual property	92	95
Accretion of asset retirement obligation	23	21
Fair value of warrant modification, net	—	402
Fair value of common stock issued for consulting services	3,044	—
Stock-based compensation	1,998	492
Warrant expense	2,312	—
Amortization of debt discount	—	597
Amortization of deferred financing costs	38	42
Non-cash convertible note interest expense	2,556	333
Non-cash interest expense	118	—
Loss on disposal of Ebonex asset	90	—
Loss on disposal of equipment	79	—
Inventory adjustment	—	130
Changes in operating assets and liabilities		
Accounts receivable	(288)	522
Inventory	(977)	(138)
Prepaid expenses and other current assets	(210)	552
Accounts payable	2,453	111
Accrued expenses	(2,605)	645
Deferred rent	(35)	(93)
Other assets and liabilities	(247)	—
Net cash used in operating activities	(11,831)	(12,182)
Cash flows from investing activities:		
Purchases of property and equipment	(3,198)	(2,391)
Equipment deposits and other assets	(1,101)	—
Net cash used in investing activities	(4,299)	(2,391)
Cash flows from financing activities:		
Proceeds from issuance of common stock, net of transaction costs	29,380	28,754
Payments on notes payable	(179)	(137)
Payments on finance leases	—	(78)
Payments on convertible note	(6,651)	—
Net cash provided by financing activities	22,550	28,539
Net decrease in cash and cash equivalents	6,420	13,966
Cash and cash equivalents at beginning of period	20,892	22,793
Cash and cash equivalents at end of period	$ 27,312	$ 36,759

	Six Months Ended June 30,	
	2019	**2018**
Supplemental disclosure of cash flows information		
Cash paid for income taxes	$ 2	$ 2
Cash paid for interest	$ 372	$ 310
Supplemental disclosure of non-cash transactions		
Change in property and equipment resulting from change in accounts payable	$ (904)	$ 146
Change in property and equipment resulting from change in accrued expenses	$ 218	$ (212)
Change in equity resulting from change in accrued expenses	$ 1,300	$ 600

The accompanying notes are an integral part of these condensed consolidated financial statements.

1. Organization

Aqua Metals, Inc. (the "Company") was incorporated in Delaware and commenced operations on June 20, 2014 (inception). On January 27, 2015, the Company formed two wholly-owned subsidiaries, Aqua Metals Reno, Inc. ("AMR") and Aqua Metals Operations, Inc. (collectively, the "Subsidiaries"), both incorporated in Delaware. The Company is engaged in the business of lead recycling through its patented and patent-pending AquaRefining™ technology. Unlike smelting, AquaRefining is a room temperature, water-based process that emits less pollution than smelting, the traditional method of lead recycling. The Company built its first recycling facility in Nevada's Tahoe Regional Industrial Complex ("TRIC") in McCarran, Nevada and intends to pursue the development of additional lead acid battery recycling facilities based on the Company's AquaRefining technology, likely through licensing or joint development arrangements. The Company commenced the shipment of products for sale, consisting of lead compounds and plastics, in April 2017, and through March 31, 2018, substantially all revenue was derived from the sale of lead compounds and plastics. In April 2018, the Company began shipping cast lead bullion (mixture of lead purchased to prime the kettles and AquaRefined lead from our AquaRefining process) blocks in addition to lead compounds and plastics and in June 2018, the Company began shipping high-purity lead from its AquaRefining process. In early 2019, the Company started the process of scaling its AquaRefining plant which includes the installation of equipment and the commissioning of AquaRefining modules.

2. Summary of Significant Accounting Policies

The significant accounting policies and estimates used in preparation of the condensed consolidated financial statements are described in the Company's audited consolidated financial statements as of and for the year ended December 31, 2018, and the notes thereto, which are included in the Company's Annual Report on Form 10-K for the year ended December 31, 2018, as filed with the Securities and Exchange Commission, or the SEC, on February 28, 2019. There have been no material changes in the Company's significant accounting policies during the three and six months ended June 30, 2019 except for the implementation of Accounting Standards Update ("ASU") No. 2016-02, Leases, ("ASC 842"), as described below.

Basis of presentation

The accompanying unaudited condensed consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP") as found in the Accounting Standards Codification ("ASC") and ASU of the Financial Accounting Standards Board ("FASB") and pursuant to the rules and regulations of the SEC. Accordingly, they do not include all the information and footnotes required by such accounting principles for complete financial statements. In the opinion of management, all adjustments (which include normal recurring adjustments) considered necessary to present fairly each of the condensed consolidated balance sheet as of June 30, 2019, the condensed consolidated statements of operations for the three and six months ended June 30, 2019 and June 30, 2018, the condensed consolidated statements of stockholders' equity for the three and six months ended June 30, 2019 and June 30, 2018 and the condensed consolidated statements of cash flows for the six months ended June 30, 2019 and June 30, 2018, as applicable, have been made. The condensed consolidated balance sheet as of December 31, 2018 has been derived from the Company's audited financial statements as of such date, but it does not include all disclosures required by U.S. GAAP. The accompanying unaudited condensed consolidated financial statements should be read in conjunction with our audited consolidated financial statements for the period ended December 31, 2018, which are included on Form 10-K filed with the Securities and Exchange Commission on February 28, 2019.

The results of operations for the three and six months ended June 30, 2019 are not necessarily indicative of results that may be expected for the year ended December 31, 2019.

Principles of consolidation

The accompanying unaudited condensed consolidated financial statements include the accounts of the Company and its Subsidiaries, both of which are wholly-owned subsidiaries. Significant inter-company accounts and transactions have been eliminated in consolidation.

Use of estimates

The preparation of the condensed consolidated financial statements requires management of the Company to make a number of estimates and assumptions relating to the reported amount of assets and liabilities and the disclosure of

contingent assets and liabilities at the date of the condensed consolidated financial statements, and the reported amounts of expenses during the period. Significant items subject to such estimates and assumptions include the carrying amount and valuation of long-lived assets, the valuation of conversion features of convertible debt, valuation allowances for deferred tax assets, the determination of fair value of estimated asset retirement obligations, the determination of stock option expense and the determination of the fair value of stock warrants issued. Actual results could differ from those estimates.

Net loss per share

Basic net loss per share is computed by dividing net loss by the weighted average number of common shares outstanding during the period. Diluted net loss per share is computed by dividing the net loss by the weighted-average number of common share equivalents outstanding for the period determined using the treasury-stock method or the if-converted method, as applicable. For purposes of this calculation, stock options, restricted stock units (RSUs) and warrants to purchase common stock are considered to be common stock equivalents and are only included in the calculation of diluted net loss per share when their effect is dilutive. The following shares underlying outstanding convertible notes, stock options, RSUs and warrants to purchase common stock were antidilutive due to a net loss in the periods presented and, therefore, were excluded from the dilutive securities computation for the six months ended June 30, as indicated below.

	June 30,	
Excluded potentially dilutive securities (1):	2019	2018
Convertible note - principal	—	702,247
Options to purchase common stock	3,604,001	1,583,354
Unvested restricted stock units	242,023	212,100
Financing warrants to purchase common stock	4,839,197	2,340,828
Total potential dilutive securities	8,685,221	4,838,529

(1) The number of shares is based on the maximum number of shares issuable on exercise or conversion of the related securities as of the period end. Such amounts have not been adjusted for the treasury stock method or weighted average outstanding calculations as required if the securities were dilutive.

Segment and geographic information

Operating segments are defined as components of an enterprise engaging in business activities for which discrete financial information is available and regularly reviewed by the chief operating decision maker in deciding how to allocate resources and in assessing performance. The chief operating decision maker views its operations and manages its business in one operating segment, and the Company operates in only one geographic segment.

Concentration of credit risk

Revenues from the following customers each represented at least 10% of total revenue for the three and six months ended June 30, 2019 and 2018, respectively. They also represented a significant portion of our accounts receivable as of June 30, 2019 and December 31, 2018, respectively.

	Revenue		Revenue		Accounts Receivable	
	Three months ended June 30,		Six months ended June 30,		June 30, 2019	December 31, 2018
	2019	2018	2019	2018		
Clarios (successor of Johnson Controls Battery Group, Inc.)	59%	91%	59%	81%	71%	95%
Ocean Partners USA, Inc.	—%	5%	—%	15%	—%	—%
P. Kay Metals	38%	—%	38%	—%	27%	—%

Recently adopted accounting guidance

In February 2016, the FASB issued ASU 2016-02 - *Leases* (ASC 842), which sets out the principles for the recognition, measurement, presentation and disclosure of leases for both parties to a contract (i.e. lessees and lessors). The new standard requires lessees to apply a dual approach, classifying leases as either finance or operating leases based on the principle of whether or not the lease is effectively a financed purchase by the lessee. This classification will determine whether lease expense is recognized based on an effective interest method or on a straight-line basis over the term of the lease, respectively. A lessee is also required to record a right-of-use asset and a lease liability for all leases with a term of greater than 12 months regardless of their classification. Leases with a term of 12 months or less will be accounted for similar to existing guidance for operating leases today. ASC 842 supersedes the previous leases standard, ASC 840 Leases. The standard has been adopted as of January 1, 2019. The new standard requires a modified retrospective transition approach for all leases existing at, or entered into after, the date of initial application, with an option to use certain transition relief. In July 2018, the FASB issued ASU No. 2018-11, Leases (Topic 842): Targeted Improvements, which amends ASC Topic 842 to provide another transition method, allowing a cumulative effect adjustment to the opening balance of retained earnings during the period of adoption. The Company has two longer term office leases and one equipment finance lease. The adoption of ASU 2016-02 on January 1, 2019 resulted in the recognition of right-of-use assets of approximately $1.6 million, lease liabilities for operating leases of approximately $1.8 million and no material impact to the Consolidated Balance Sheets and Consolidated Statements of Operations. See Note 9 for further information regarding the impact of the adoption of ASU 2016-02 on the Company's financial statements.

Recent accounting pronouncements

There were no other recent accounting pronouncements or changes in accounting pronouncements during the six months ended June 30, 2019 that are of significance or potential significance to the Company.

3. Revenue Recognition

The Company generates revenues by recycling lead acid batteries (“LABs”) and selling the recovered lead to its customers. Primary components of the recycling process include sales of recycled lead consisting of lead compounds, ingoted hard lead and ingoted AquaRefined lead as well as plastics. The Company commenced the shipment of products for sale, consisting of lead compounds and plastics, in April 2017, and through March 31, 2018, all revenue was derived from the sale of lead compounds and plastics. In April 2018, the Company began shipping lead bullion in addition to lead compounds and plastics. In June 2018, the Company began shipping high-purity lead from its AquaRefining process.

Revenue from products transferred to customers at a single point in time with the delivery of the Company’s products to customers accounted for 100% of our revenue during the three and six months ended June 30, 2019 and 2018.

4. Inventory

Inventory consisted of the following (in thousands):

	June 30, 2019	December 31, 2018
Finished goods	$ 326	$ 43
Work in process	604	164
Raw materials	812	558
Total inventory	$ 1,742	$ 765

5. Property and Equipment, net

Property and equipment, net, consisted of the following (in thousands):

Asset Class	Useful Life (Years)	June 30, 2019	December 31, 2018
Operational equipment	3-10	$ 18,690	$ 15,926
Lab equipment	5	580	698
Computer equipment	3	212	201
Office furniture and equipment	3	336	336
Land	-	1,047	1,047
Building	39	24,842	24,820
Asset retirement cost	20	670	670
Equipment under construction		8,951	7,892
		55,328	51,590
Less: accumulated depreciation		(7,698)	(6,042)
Total property and equipment, net		$ 47,630	$ 45,548

Depreciation expense was $0.9 million and $1.7 million for the three and six months ended June 30, 2019, respectively, and $0.8 million and $1.6 million for the three and six months ended June 30, 2018, respectively. Equipment under construction is primarily AquaRefining modules manufactured by the Company to be used in the McCarran, Nevada recycling plant.

6. Asset Retirement Obligation

The Company records a liability in the period in which an asset retirement obligation (ARO) is incurred, in an amount equal to the discounted estimated fair value of the obligation that is capitalized. In each subsequent fiscal quarter, this liability is accreted up to the final retirement cost. The determination of the ARO is based on an estimate of the future cost to remove and decontaminate the McCarran facility upon closure. The actual costs could be higher or lower than current estimates. The discounted estimated fair value of the closure costs is $0.7 million and the obligation was recorded as of March 31, 2017, when the obligation was deemed to have occurred. Offsetting this ARO is, as noted in Note 5 above, an asset retirement cost of the same amount that has been capitalized. The estimated fair value of the closure costs is based on vendor quotes to remove and decontaminate the McCarran facility in accordance with the Company's closure plan as filed with the State of Nevada in its "Application for the Recycling of Hazardous Waste, by Written Determination" in 2016. Accretion of the ARO for the three and six months ended June 30, 2019 was approximately $11,000 and $23,000, respectively. Accretion of the ARO for the three and six months ended June 30, 2018 was approximately $11,000 and $21,000, respectively.

The Company has entered into a facility closure trust agreement for the benefit of the Nevada Division of Environmental Protection (NDEP), an agency of the Nevada Division of Conservation and Natural Resources. Funds deposited in the trust are to be available, when and if needed, for potential decontamination and hazardous material cleanup in connection with the closure and/or post-closure care of the facility. The trustee will reimburse the Company or other persons as specified by the NDEP from the fund for closure and post-closure expenditures in such amounts as the NDEP shall direct in writing. Through June 30, 2019, $670,000 has been contributed to the trust fund.

7. Convertible Note Payable

The convertible note payable at December 31, 2018 was with Interstate Battery Systems International, Inc. (Interstate Battery) and was comprised of the following (in thousands):

	June 30, 2019	December 31, 2018
Convertible note payable	$ —	$ 5,000
Accrued interest	—	1,651
Deferred financing costs, net	—	(20)
Note discount	—	(2,556)
Less current portion	$ —	4,075
Convertible note payable, non-current portion	$ —	$ —

The convertible note payable bore interest at 11% per annum and was due May 24, 2019. The original note discount was calculated as the allocated fair value of the warrants issued in connection with the transaction, which included the issuance of common stock, warrants and the convertible note, as well as the allocated fair value of the embedded conversion feature, subject to limitations on the absolute amount of discount attributable to the convertible notes and its allocated value. The discount was amortized using the effective interest method over the three-year term of the note, maturing on May 24, 2019.

On January 24, 2019, the Company repaid Interstate Battery the outstanding principal and interest on the convertible debt in the amount of $6.7 million. In connection with the payoff, the Company amortized the remaining discount on the note of $2.6 million and remaining deferred financing expenses of $20,000 to interest expense.

8. Notes Payable

Aqua Metals Reno, Inc. (“AMR”), a subsidiary of Aqua Metals Inc., entered into a $10,000,000 loan with Green Bank on November 3, 2015. The term of the loan is twenty-one years. During the first twelve months, only interest was payable and thereafter monthly payments of interest and principal are due. The interest rate adjusts on the first day of each calendar quarter to the greater of six percent (6%) or two percent (2%) per annum above the minimum prime lending rate charged by large U.S. money center commercial banks as published in the Wall Street Journal. The terms of the Loan Agreement contain various affirmative and negative covenants. Among them, AMR must maintain a minimum debt service coverage ratio of 1.25 to 1.0 (beginning with the twelve-month period ending March 31, 2017), a maximum debt-to-net worth ratio of 1.0 to 1.0 and a minimum current ratio of 1.5 to 1.0. AMR was in compliance with all but the minimum debt service coverage ratio covenant as of and for each of the calendar quarters in the period March 31, 2017 through June 30, 2019. AMR has received a waiver for the minimum debt service coverage ratio covenant for each of the aforementioned calendar quarters.

The net proceeds of the loan were used for the construction of the Company's lead acid recycling operation in McCarran, Nevada. Collateral for this loan is AMR's accounts receivable, goods, equipment, fixtures, inventory, accessions and a certificate of deposit in the amount of $1,000,000.

The loan is guaranteed by the United States Department of Agriculture Rural Development ("USDA"), in the amount of90% of the principal amount of the loan. The Company paid a guarantee fee to the USDA in the amount of $270,000 at the time of closing and is required to pay to the USDA an annual fee in the amount of0.50% of the guaranteed portion of the outstanding principal balance of the loan as of December 31 of each year.

The costs associated with obtaining the Green Bank loan were recorded as a reduction to the carrying amount of the note and are being amortized as interest expense within the condensed consolidated statements of operations over the twenty-one year life of the loan.

Notes payable is comprised of the following (in thousands):

	June 30, 2019	December 31, 2018
Notes payable, current portion		
Capital equipment leases	$ —	$ 16
Green Bank, net of issuance costs	272	295
Total notes payable, current portion	$ 272	$ 311
Notes payable, non-current portion		
Capital equipment leases	$ —	$ 31
Green Bank, net of issuance costs	8,549	8,569
Total notes payable, non-current portion	$ 8,549	$ 8,600

Note: Capital equipment leases are now being accounted for as a finance lease liability.

9. Leases

The Company currently maintains one finance lease for equipment and two operating leases for real estate. Our finance lease is immaterial to our condensed consolidated financial statements. Our operating leases have terms of 76 and 42 months and include one or more options to extend the duration of the agreements. These operating leases are included in "Other assets" on the Company's June 30, 2019 condensed consolidated balance sheet and represent the Company's right to use the underlying assets for the term of the leases. The Company's obligation to make lease payments are included in "Lease liability, current portion" and "Lease liability, non-current portion" on the Company's June 30, 2019 condensed consolidated balance sheet. The Company recognized sublease income of$105,000 and $149,000 for the three and six months ended June 30, 2019, respectively.

Based on the present value of the lease payments for the remaining lease term of the Company's existing leases, as of June 30, 2019, total right-of-use assets were approximately $1.42 million and operating lease liabilities were approximately$1.63 million.

Information related to the Company's right-of-use assets and related lease liabilities were as follows (in thousands):

	Three months ended June 30, 2019	Six months ended June 30, 2019
Cash paid for operating lease liabilities	$ 155	$ 309
Operating Lease Cost	$ 144	$ 289

	June 30, 2019
Weighted-average remaining lease term	2.7 Years
Weighted-average discount rate	9.66 %

Maturities of lease liabilities as of June 30, 2019 were as follows (in thousands):

Due in 12-month period ended June 30,		
2020	$	633
2021	$	652
2022	$	560
	$	1,845
Less imputed interest	$	(213)
Total lease liabilities	$	1,632
Current operating lease liabilities	$	514
Non-current operating lease liabilities	$	1,118
	$	1,632

Note: Excludes a finance lease with current liability of $6 and a non-current liability of $28.

10. Stockholders' Equity

Shares issued

On January 22, 2019, the Company completed a public offering of 5,175,000 shares of its common stock, at the price of $1.90 per share, for gross proceeds of $9.8 million. After the payment of underwriter discounts and offering expenses, the Company received net proceeds of approximately $9.1 million.

On May 14, 2019, the Company completed a public offering of 11,000,000 shares of its common stock, at the price of $2.00 per share, for gross proceeds of $22 million. After the payment of underwriter discounts and offering expenses, the Company received net proceeds of approximately $20.3 million.

During the six months ended June 30, 2019, the Company issued 201,526 shares of common stock upon vesting of Restricted Stock Units granted by the Company.

During the six months ended June 30, 2019, the Company issued 115,731 shares of common stock upon vesting of Restricted Stock Units granted to Board members.

During the six months ended June 30, 2019, the Company issued 597,485 shares of common stock valued at $1.7 million to Veolia North America Regeneration Services, LLC pursuant to the Operations, Maintenance and Management Agreement dated February 27, 2019 between Veolia and the Company.

During the six months ended June 30, 2019, the Company issued 60,261 shares of common stock to prior Company executives to fulfill obligations related to separation agreements and other consulting services.

During the six months ended June 30, 2019, the Company issued 807,436 shares of common stock valued at $1.3 million to Clarios (successor of Johnson Controls) pursuant to the Clarios Investor Rights Agreement dated February 7, 2017 between Clarios and the Company.

Warrant issued

In January 2019, the Company issued a warrant to purchase 103,500 shares of the Company's common stock to the underwriter of the Company's January 22, 2019 public offering, equal to 2% of the 5,175,000 shares sold. The warrant is exercisable at $1.90 per share (100% of the price of the common stock sold in the offering), commencing the later of six months after January 22, 2019 or such time as the Company amends its charter to increase its authorized shares of common stock. The warrant will expire on January 22, 2024.

Pursuant to the Operations, Maintenance and Management Agreement dated February 26, 2019, the Company has agreed to issue to Veolia, on the one-year anniversary of the Agreement, warrants to purchase 2,000,000 shares of its common stock at an exercise price of $5.00 per share and, on the second anniversary of the Agreement, warrants to purchase an additional 2,000,000 shares of its common stock at an exercise price $7.00 per share. The warrants will have a term of ten years from the date of issuance. The warrants were valued as of the agreement date using the Black-Scholes-Merton pricing model. The value of the warrants is being amortized over the applicable period until the warrants are issued.

Stock-based compensation

The stock-based compensation expense was allocated as follows:

	Three months ended June 30,		Six months ended June 30,	
	2019	2018	2019	2018
Cost of product sales	$ 17	$ 47	$ 92	$ 97
Research and development cost	19	77	134	189
General and administrative expense	894	224	1,772	206
Total	$ 930	$ 348	$ 1,998	$ 492

The following assumptions were used in the Black-Scholes-Merton pricing model to estimate the fair value of options granted during the periods presented:

	Three months ended June 30,		Six months ended June 30,	
	2019	2018	2019	2018
Expected stock volatility	86.3% - 87.5%	79.5% - 86.3%	82.3% - 87.5%	78.4% - 86.3%
Risk free interest rate	2.2% - 2.3%	2.4% - 2.8%	2.2% - 2.5%	2.1% - 2.8%
Expected years until exercise	2.8 - 3.4	2.5 - 3.5	2.2 - 2.5	2.5 - 3.5
Dividend yield	0 %	0 %	0 %	0 %

There were no stock option exercises during the six months ended June 30, 2019 and 2018.

Stock option issuances

In January 2019, Stephen Cotton, President and CEO, was awarded options to purchase up to 232,461 shares of the Company's common stock. The options were vested immediately and are exercisable over a five-year period at an exercise price of $1.88 per share. The options were issued under the Company's Amended and Restated 2014 Stock Incentive Plan, or "2014 Plan".

In January 2019, Judd Merrill, CFO, was awarded options to purchase up to 56,698 shares of the Company's common stock. The options were vested immediately and are exercisable over a five-year period at an exercise price of $1.88 per share. The options were issued under the 2014 Plan.

In February 2019, Stephen Cotton, President and CEO, was awarded options to purchase up to 1.26 million shares of the Company's common stock. Options to purchase 420,000 common shares are exercisable over a five-year period at an exercise price of $3.08 per share. Options to purchase 420,000 common shares are exercisable over a five-year period at an exercise price of $3.68 per share and options to purchase 420,000 common shares are exercisable over a five-year period at an exercise price of $4.18 per share. The options will vest over three years in three equal installments. The options were issued under the Company's 2019 Stock Incentive Plan, or "2019 Plan".

In March 2019, Judd Merrill, CFO, was awarded options to purchase up to 250,000 shares of the Company's common stock. Options to purchase 125,000 common shares are exercisable over a five-year period at an exercise price of $3.79 per share. Options to purchase 62,500 common shares are exercisable over a five-year period at an exercise price of $4.39 per share and options to purchase 62,500 common shares are exercisable over a five-year period at an exercise price of $4.89 per share. The options will vest over three years in three equal installments. The options were issued under the 2019 Plan.

During the six months ended June 30, 2019, the Company awarded options to purchase up to 25,000 shares of the Company's common stock. The options vest equally over three years and are exercisable over a five-year period at an exercise price of $1.95 per share. The options were issued under the 2019 Plan.

During the six months ended June 30, 2019, the Company awarded options to the Directors to purchase up to 172,915 shares of the Company's common stock. The options vest equally over 12 months and are exercisable over a five-year period at an exercise price of $2.48 per share. The options were issued under the 2019 Plan.

Restricted stock units

In January 2019, the Company granted 261,455 restricted stock units (RSUs), all of which were subject to vesting, with a grant fair value of $490,000 to the employees under the 2014 Plan. The shares vest in six equal semi-annual installments over a three-year period.

11. Commitments and Contingencies

On April 19, 2018, Stephen Clarke resigned as president and chief executive officer and as a member of the Board. Dr. Clarke's resignation as an officer of the Company was treated as a termination without cause under his employment agreement with the Company. Pursuant to his employment agreement, Dr. Clarke was entitled to one-time severance benefits that includes severance and benefits continuation expense of approximately $0.9 million paid out over a 2-year period in consideration of his execution of a customary release and separation agreement. Additionally, Dr. Clarke was granted an extension of the exercise period of his stock options upon termination from 90 days to 2 years. The expense related to the modification of these stock option awards was approximately $15,000.

On December 3, 2018, Selwyn Mould resigned as chief operating officer. Mr. Mould's resignation as an officer of the Company was treated as a termination without cause under his employment agreement with the Company. Pursuant to his employment agreement, Mr. Mould was entitled to one-time severance benefits that includes severance and benefits continuation expense of approximately $0.9 million paid out over a 2-year period in consideration of his execution of a customary release and separation agreement. Pursuant to a Separation Agreement and Release between the Company and Mr. Mould, Mr. Mould agreed to receive, in lieu of two years of salary, a cash severance payment of $100,000 payable in six equal installments in accordance with the Company's regular payroll practices, plus an award of restricted stock units that entitle him to receive, for each of the 21 consecutive months commencing on March 1, 2019, $33,333 of the Company's common shares based on volume-weighted average price over the 20 trading days preceding the first business

day of the respective month. The Company has reserved the right, at its option, to pay Mr. Mould$33,333 of cash in lieu of any of the21 monthly share issuances. The Separation Agreement and Release includes customary indemnification, confidentiality, non-disparagement and non-solicitation covenants and agreements of the parties.

Interstate Battery Agreement Commitment

On June 24, 2018, the Company entered into a series of agreements with Interstate Battery, including an amendment to the Investor Rights Agreement. Pursuant to the amendment to the Investor Rights Agreement, Interstate Battery agreed to waive all payments under the key-man provisions of the Investor Rights Agreement with respect to the resignation of the Company's former chief executive officer, Stephen Clarke. In addition, the parties agreed that the Company, at its option, can elect to eliminate the key-man event and all related key-man payments associated with Mr. Mould by (i) paying Interstate Battery a one-time fee of $0.5 million, payable in cash and (ii) agreeing to pay Interstate Battery $2.0 million, payable at the Company's election in cash or shares of its common stock, should the Company's current president, Stephen Cotton, no longer serve as president of the Company during the period ending May 18, 2019.

The Company paid Interstate Battery a one-time fee of $0.5 million on February 20, 2019 related to the key-man provision associated with Mr. Mould's resignation.

Clarios (successor of Johnson Controls) Agreement Commitment

Pursuant to the Clarios Investor Rights Agreement, the Company has agreed to compensate Clarios should either Stephen Clarke, the Company's then current chief executive officer, or Selwyn Mould, the Company's then current chief operating officer, no longer hold such positions or no longer devote substantially all of their business time and attention to the Company, whether as a result of resignation, death, disability or otherwise (such an event referred to as a "key-man event"). The Company has agreed to pay Clarios $1.0 million per occurrence, if either officer is subject to a key-man event during the 18 months following February 7, 2017. The Company also agreed to pay Clarios $1.0 million if either or both key-man events occur after 18 months and prior to 30 months following February 7, 2017. Pursuant to the agreement, if Clarios, in its sole and absolute discretion, agrees with the Company on mutually acceptable replacements for Dr. Clarke and/or Mr. Mould, as the case may be, the key-man penalties shall be deemed waived by Clarios. In connection with the resignations by Dr. Clarke and Mr. Mould described above, Clarios has submitted to the Company its claim for payment of the key-man penalties in the total amount of $2.0 million. We agreed to settle the Clarios Key-man penalty claim through our issuance of 807,436 shares of our common stock, which we issued in June 2019.

Legal proceedings

Beginning on December 15, 2017, three purported class action lawsuits were filed in the United Stated District Court for the Northern District California against the Company and certain of our former executive officers, Stephen Clarke, Thomas Murphy and Mark Weinswig. On March 23, 2018, the cases were consolidated under the caption In Re: Aqua Metals, Inc. Securities Litigation Case No 3:17-cv-7142. On May 23, 2018, the Court appointed lead plaintiffs and approved counsel for the lead plaintiffs. On July 20, 2018, the lead plaintiffs filed a consolidated amended complaint ("Amended Complaint"), on behalf of a class of persons who purchased the Company's securities between May 19, 2016 and November 9, 2017, against the Company, Stephen Clarke, Thomas Murphy and Selwyn Mould. The Amended Complaint alleges the defendants made false and misleading statements concerning the Company's lead recycling operations in violation of Section 10(b) of the Securities Exchange Act of 1934 ("Exchange Act") and Rule 10b-5 promulgated thereunder. The Amended Complaint seeks to hold the individual defendants as control persons pursuant to Section 20(a) of the Exchange Act. The Amended Complaint also alleges a violation of Section 11 of the Securities Act of 1933 ("Securities Act") based on alleged false and misleading statements concerning the Company's lead recycling operations contained in, or incorporated by reference in, the Company's Registration Statement on Form S-3 filed in connection with its November 2016 public offering. That claim is asserted on behalf of a class of persons who purchased shares pursuant to, or that are traceable to, that Registration Statement. The Amended Complaint seeks to hold the individual defendants liable as control persons pursuant to Section 15 of the Securities Act. The Amended Complaint seeks unspecified damages and plaintiffs' attorneys' fees and costs. On September 18, 2018, the defendants filed a motion to dismiss the Amended Complaint in its entirety and the plaintiff subsequently filed its opposition to the motion. In January 2019, the court notified the parties that it will rule on the motion to dismiss without a hearing. The Company denies that the claims in the Amended Complaint have any merit and it intends to vigorously defend the action.

Beginning on February 2, 2018, five purported shareholder derivative actions were filed in the United States District Court for the District of Delaware against the Company and certain of its current and former executive officers and directors, Stephen Clarke, Selwyn Mould, Thomas Murphy, Mark Weinswig, Vincent DiVito, Mark Slade and Mark Stevenson. On May 3, 2018, the cases were consolidated under the caption In re Aqua Metals, Inc. Stockholder Derivative Litigation, Case No. 1:18-cv-201-LPS (D. Del.). The complaints were filed by persons claiming to be stockholders of Aqua Metals and generally allege that certain of the Company's officers and directors breached their fiduciary duties to the Company by violating the federal securities laws and exposing the Company to possible financial liability. The complaints seek unspecified damages and plaintiffs' attorneys' fees and costs. The parties have entered into a stipulation staying the action until 30 days after a decision on the Company's motion to dismiss the Amended Complaint in the class action described above. The Company denies that the claims in the shareholder derivative action have any merit and it intends to vigorously defend the action.

The Company may, from time to time, be party to litigation and subject to claims incident to the ordinary course of business. As its growth continues, the Company may become party to an increasing number of litigation matters and claims. The outcome of litigation and claims cannot be predicted with certainty, and the resolution of any future matters could materially affect its future financial position, results of operations or cash flows.

12. Subsequent Events

The Company has evaluated subsequent events through the date which the condensed consolidated financial statements were available to be issued.

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

Cautionary Statement

The following discussion and analysis should be read in conjunction with our unaudited condensed consolidated financial statements and the related notes thereto contained elsewhere in this report. The information contained in this quarterly report on Form 10-Q is not a complete description of our business or the risks associated with an investment in our common stock. We urge you to carefully review and consider the various disclosures made by us in this report and in our other filings with the Securities and Exchange Commission, or SEC, including our Annual Report on Form 10-K for the year ended December 31, 2018 filed with the SEC on February 28, 2019, or our Annual Report.

In this report we make, and from time to time we otherwise make written and oral statements regarding our business and prospects, such as projections of future performance, statements of management's plans and objectives, forecasts of market trends, and other matters that are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. Statements containing the words or phrases "will likely result," "are expected to," "will continue," "is anticipated," "estimates," "projects," "believes," "expects," "anticipates," "intends," "target," "goal," "plans," "objective," "should" or similar expressions identify forward-looking statements, which may appear in our documents, reports, filings with the SEC, and news releases, and in written or oral presentations made by officers or other representatives to analysts, stockholders, investors, news organizations and others, and in discussions with management and other of our representatives.

Our future results, including results related to forward-looking statements, involve a number of risks and uncertainties, including those risks included below in Part II, Item 1 "Risk Factors". No assurance can be given that the results reflected in any forward-looking statements will be achieved. Any forward-looking statement speaks only as of the date on which such statement is made. Our forward-looking statements are based upon assumptions that are sometimes based upon estimates, data, communications and other information from suppliers, government agencies and other sources that may be subject to revision. Except as required by law, we do not undertake any obligation to update or keep current either (i) any forward-looking statement to reflect events or circumstances arising after the date of such statement or (ii) the important factors that could cause our future results to differ materially from historical results or trends, results anticipated or planned by us, or which are reflected from time to time in any forward-looking statement.

General

Aqua Metals (NASDAQ: AQMS) is engaged in the business of lead recycling through its novel, proprietary and patented AquaRefining™ technology. AquaRefining is a room temperature, water and organic acid-based process that greatly reduces environmental emissions. We believe our suite of patented and patent pending AquaRefining technologies will allow the lead-acid battery industry to simultaneously improve the environmental impact of lead recycling and scale recycling production to meet demand. Furthermore, our AquaRefining technologies result in high-purity lead. We were formed as a Delaware corporation on June 20, 2014 and since our formation, we have focused our efforts on the development and testing of our AquaRefining process, the construction of our initial lead acid battery, or LAB, recycling facility at the Tahoe-Reno Industrial Center, or TRIC, located in McCarran, Nevada and commercializing the AquaRefining process.

We completed the development of our first LAB recycling facility at TRIC and commenced production of battery breaking and limited operations during the first quarter of 2017. The TRIC facility now produces varying products for commercial sale primarily consisting of ingoted AquaRefined lead, ingoted lead bullion, lead compounds, and plastics. In April 2017, we commenced the shipment of products for sale, consisting of metallic lead, lead compounds and plastics. In April 2018, we commenced the limited production of cast lead bullion, representing a mixture of lead purchased to prime our kettles and AquaRefined lead from our AquaRefining process. In June 2018, we commenced the sale of pure AquaRefined lead in the form of two tonne blocks, and in October 2018 we commenced the sale of AquaRefined lead in the form of battery manufacturing ready ingots. In November 2018, we received official vendor certification from Clarios (the successor to Johnson Controls Battery Group, Inc., as further described below) for our AquaRefined lead and in December 2018 we commenced shipments directly to Clarios owned and partner battery manufacturing facilities.

Commencing in June 2018, we adopted a strategy of limiting the operation of the AquaRefining modules to one or a few at a time as we continued to adjust the AquaRefining modules to enhance their operation. Since we had been operating at a negative contribution margin, we believed this strategy would allow us to continue making AquaRefined lead for the Clarios certification process while controlling costs and providing downtime during which we could upgrade the remaining components of the plant. These plant upgrades, which are expected to increase our contribution margin for planned production increases, include installing a new filter press and upgrading other areas of our concentrate production area to enable continuous production of the concentrate for the AquaRefining modules. Between June 2018 and June 2019, we operated the first four of the 16 modules from time to time

while making continuous improvements that have led to individual modules running in a steady state producing 100Kg/hour for up to a month at a time. Between October and December 2018, we operated one or two AquaRefining modules at a time on a 24-hour, seven days a week (24x7) basis. During the first quarter of 2019, we operated one or two modules at a time 24-hours a day, four days a week to allow safe times for some of the key work to be completed on some of our contribution margin improvement projects discussed above.

As of the date of this report, we are operating up to four of our initial modules (modules 1 through 4) on a 24x7 basis. We are also in the process of rolling out 8 additional modules (modules 9 through 16) in order to utilize up to 50% of the plant's total current capacity. We plan to repeat this process to roll out the remaining 4 uncommissioned modules, (modules 5 through 8) as well as update the already commissioned modules 1 through 4. We seek to operate all 16 modules on a 24x7, continuous basis by the end of 2019. Because we have experienced delays and unforeseen issues in the completion of the AquaRefining production line to date, it is possible that we may encounter additional delays and issues that will prevent us from achieving continuous, 24x7 production with 16 modules by year-end.

As we endeavor to bring the AquaRefining modules online, we continue our efforts to complete and commission infrastructure and operational improvements intended to improve the contribution margin for our AquaRefined lead production. These infrastructure and operational improvements are expected to allow us to recover and recycle our chemical feedstock more efficiently, which should further improve our contribution margin. In March 2019, we announced that we completed Phase One of our two-phase capital improvement program. Electrolyte recovery is critical to achieving positive contribution margin and during the first quarter of 2019 we were conserving 67% of our target for electrolyte recovery. From the capital improvements made in phase one we have demonstrated the ability to conserve 75% of our target for electrolyte recovery during the second quarter of 2019. We expect to conserve 100% of our target when we complete Phase Two sometime during the second half of 2019. We have already run a successful pilot program for the Phase Two solution of our capital improvement program, which, along with conserving additional electrolyte, should generate higher lead yields for our AquaRefining process, also improving contribution margin.

In February 2017, we entered into a series of agreements with Johnson Controls Battery Group, Inc. and commenced discussions and negotiations with Johnson Controls to develop an appropriate program blueprint, and enter into a definitive development program agreement reflecting that blueprint, pursuant to which we will provide to Johnson Controls and certain strategic partners of Johnson Controls certain licensing, sale and services of our AquaRefining technologies and equipment. In May 2019, the assets and operations of Johnson Controls Battery Group, Inc., including our agreements and collaboration with Johnson Controls, were sold to Clarios, a newly-organized battery and power solutions company formed by Brookfield Business Partners LP. In this report, we refer to Clarios, as the successor to Johnson Controls Battery Group, Inc., when referring to agreements, actions or discussions between us and Johnson Controls Battery Group, Inc., whether prior to or following the latter’s transfer of assets to Clarios.

Since January 1, 2019, we have engaged in the following non-routine transactions:

In January 2019, we completed a public offering of 5,175,000 shares of our common stock, at the price of $1.90 per share, for gross proceeds of $9.8 million. After the payment of underwriter discounts and offering expenses, we received net proceeds of approximately $9.1 million.

On February 26, 2019, after engaging in extensive diligence and engineering evaluations, we signed a contract with Veolia North America Regeneration Services LLC (Veolia) to provide operations, maintenance and management services at Aqua Metals’ AquaRefining facility in McCarran, Nevada. Pursuant to the agreement, Veolia contributes operational and technological expertise and organizational capabilities in aqueous-based process chemistries and electrolysis along with assumption of responsibility for operations, supply chain, offtake and management of the plant. Veolia employees began working onsite starting March 4, 2019 at the McCarran facility. In addition to receiving expertise and support from Veolia overall, the agreement provides for Veolia to relocate up to six full-time employees with operations, process engineering and management expertise to join the Aqua Metals team at AquaRefinery in McCarran, Nevada. Veolia has assumed the primary responsibility for scaling the facility through the remainder of 2019 to the goal of operating 16 modules on a continuous basis. The agreement also provides for Veolia and Aqua Metals to work together to plan in 2019 and complete the expansion of the McCarran, Nevada facility to 32 AquaRefining modules in 2020.

In consideration of the services to be provided by Veolia under the agreement, we agreed to issue to Veolia a total of 2,350,000 shares of our common stock in eight quarterly installments of 293,750 shares. Each installment is subject to weighted average antidilution adjustments in the event of our sale of common shares for cash consideration during the preceding quarterly period at a price less than $2.41 per share. In consideration of the antidilution adjustments, the number of shares to be issued in each installment shall be capped at the current market value of $1.25 million based on the volume weighted average price of our

shares over the 20 trading days preceding the date for issuance of such installment. We also agreed to issue to Veolia, on the one-year anniversary of the agreement, warrants to purchase an additional 2,000,000 shares of our common stock at an exercise price of$5.00 per share and, on the second anniversary of the agreement, warrants to purchase an additional 2,000,000 shares of our common stock at an exercise price$7.00 per share. The warrants will have a term of ten years from the date of issuance.

In May 2019, we completed a public offering of 11,000,000 shares of our common stock, at the price of $2.00 per share, for gross proceeds of $22.0 million. After the payment of underwriter discounts and offering expenses, we received net proceeds of approximately $20.3 million.

Plan of Operations

Our plan of operations for the 12-month period following the date of this report is to complete the commercial roll-out of all 16 AquaRefining modules installed at TRIC and to ramp up the production of AquaRefined lead. Thereafter, we intend to install an additional 16 AquaRefining modules at TRIC incorporating any recommended design improvements based on the operation of the first 16 modules and subject to having or being able to raise the requisite capital on terms acceptable to the Company for such expansion.

Additionally, we plan to further improve the plant economics by processing a growing proportion of the metallic lead we recover from breaking batteries within the AquaRefinery and by utilizing the third of our six kettles in the refining area commissioned during the first quarter of 2019. We believe the continuation of this program will improve contribution margin by enabling us to finish a growing proportion of these materials in-house. We announced in March 2019, the first full production run of lead bullion from our newly commissioned third kettle. In June 2019, we announced the sequential increase in production of AquaRefined lead as well as sequential increases in lead metal bullion during the second quarter of 2019.

In parallel with our efforts to commercialize our existing AquaRefining operations, our 12-month plan of operations also includes our proposal to license our technology and to provide planning, engineering, technical assistance, equipment and other services in support of the addition of an AquaRefining facility to a battery recycling facility owned by Clarios. Licensing could take the form of either a co-processing arrangement whereby we operate our technology in conjunction with an existing smelter or our licensee operates directly utilizing our technology. We are currently discussing with Clarios an appropriate program blue print, and we intend to enter into a definitive development program agreement reflecting that blue print, pursuant to which we will provide Clarios and certain strategic partners of Clarios certain licensing, sale and services of our AquaRefining technologies and equipment. In June 2019, we signed an agreement with Clarios setting parameters for finalizing a definitive development program. However, there can be no assurance that we will be able to conclude a definitive development agreement with Clarios on terms that benefit us, if at all. See "Risk Factors - Risks Related to Our Business."

Our 12-month plan of operations also includes the pursuit and evaluation of additional strategic relationships, in addition to our recently announced relationship with Veolia, and the licensing of our technology and the provision of equipment and services to other potential strategic partners. However, there can be no assurance that we will be able to effect any of these additional partnerships in the future on commercially reasonable terms, or at all.

Results of Operations

During the second quarter of 2018 product sales consisted of lead bullion, lead compounds and plastics. Product sales during thesecond quarter of 2019 consisted of high-purity lead from our AquaRefining process as well as lead bullion, lead compounds, and plastics. The following table summarizes our results of operations with respect to the items set forth below for the three and six months ended June 30, 2019 and 2018 together with the percentage change in those items (in thousands).

	Three months ended June 30,				Six months ended June 30,			
	2019	2018	Favorable (Unfavorable)	% Change	2019	2018	Favorable (Unfavorable)	% Change
Product sales	$ 1,483	$ 483	$ 1,000	207.0 %	$ 1,920	$ 2,209	$ (289)	(13.1)%
Cost of product sales	7,185	4,600	(2,585)	56.2 %	11,866	10,036	(1,830)	18.2 %
Research and development cost	338	1,203	865	(71.9)%	958	2,678	1,720	(64.2)%
General and administrative expense	4,335	3,913	(422)	10.8 %	8,351	5,688	(2,663)	46.8 %
Total operating expense	$ 11,858	$ 9,716	$ (2,142)	22.0 %	$ 21,175	$ 18,402	$ (2,773)	15.1 %

As mentioned previously, product sales consist of high-purity lead from our AquaRefining process as well as lead bullion, lead compounds and plastics. Revenue for the three months ended June 30, 2019 increased approximately 207% compared to the three months endedJune 30, 2018 as a result of the ramping of production during the second quarter of 2019 and as a result of our strategic decision, starting in the second quarter of 2018, to limit the operations of our AquaRefining in order to focus resources on the implementation of plant improvements and enhancing process efficiencies. During the second quarter of 2019 the Company began to ramp up production. During the six months ended June 30, 2019, revenue decreased approximately 13% as a result of limited operations in the first quarter of 2019.

Cost of product sales includes raw materials, supplies and related costs, salaries and benefits, consulting and outside services costs, depreciation and amortization costs and insurance, travel and overhead costs. Cost of product sales increased approximately 56% and 18% for the three and six months ended June 30, 2019, respectively, as compared to the three and six months ended June 30, 2018. Cost of product sales were lower in 2018 due to the planned slowdown of plant operations. Cost increases in 2019 were also affected by the hiring, in the first quarter of 2019, of approximately 25 new production employees in preparation for ramping-up operations.

Research and development cost included expenditures related to the improvement of the AquaRefining technology. During the three and six months endedJune 30, 2019, research and development costs decreased approximately 72% and 64%, respectively, over the comparable period in 2018. The decline in research and development cost is primarily the result of management's focus on preparing the plant for ramping-up operations and a reduced emphasis on research and development activities due to the fact that the AquaRefining for lead technology has matured and we are moving out of the research and development stage and into ramped production at the AquaRefinery. As a result, there has been a reduction in research and development staffing by 25% subsequent to the comparable periods in 2018.

General and administrative expense increased approximately 11% and 47% for the three and six months endedJune 30, 2019 compared to the three and six months ended June 30, 2018. The most significant drivers of these increases were non-cash expense items. For the six months ended June 30, 2019, we had $3.7 million of non-cash expense related to the Veolia agreement (as previously discussed). In addition, non-cash stock-based compensation increased by approximately $1.6 million compared to the six months ended June 30, 2018. We also incurred costs of approximately $0.2 million for professional serves fees associated with the sublease of the Alameda facility. The six months ended June 30, 2018 included $0.9 million severance for our former chief executive officer, as well as a net $0.4 million noncash charge associated with warrant modification related to Interstate Battery and increased legal fees associated with proxy and solicitation fees related to efforts to address activist investors.

The following table summarizes our other income and interest expense for the three and six months ended June 30, 2019 and 2018 together with the percentage change in those items (in thousands).

	Three months ended June 30,				Six months ended June 30,			
	2019	2018	Favorable (Unfavorable)	% Change	2019	2018	Favorable (Unfavorable)	% Change
Other income and (expense)								
Interest expense	$ (203)	$ (719)	$ 516	71.8%	$ (3,092)	$ (1,306)	$ (1,786)	(136.8)%
Interest and other income	$ 77	$ 25	$ 52	208.0%	$ 140	$ 42	$ 98	233.3 %

Interest expense related primarily to the $5.0 million Interstate Battery convertible note and the $10.0 million note payable to Green Bank, amortization of debt issuance costs incurred in connection with both of these notes, as well as an accrual for the USDA guarantee fee on the $10.0 million note to Green Bank. On January 24, 2019, we repaid Interstate Battery the outstanding principal and interest on the convertible debt in the amount of $6.7 million. As a result of this debt repayment, we amortized the remaining discount on the note of $2.6 million and remaining deferred financing expenses of $20,000 to interest expense. These non-cash items were the primary cause of the increase in overall interest expense for the six months ended June 30, 2019. Interest expense decreased for the three months ended June 30, 2019 as compared to the same period in 2018 as the result of the payoff of the Interstate Battery convertible note.

Interest income increased for the three months ended June 30, 2019 compared to the same period in 2018 due to higher cash balances during the quarter.

Liquidity and Capital Resources

As of June 30, 2019, we had total assets of $83.7 million and working capital of $22.0 million.

The following table summarizes our cash used in operating, investing and financing activities (in thousands):

	Six Months Ended June 30,	
	2019	2018
Net cash used in operating activities	$ (11,831)	$ (12,182)
Net cash used in investing activities	$ (4,299)	$ (2,391)
Net cash provided by financing activities	$ 22,550	$ 28,539

Net cash used in operating activities

Net cash used in operating activities for the six months ended June 30, 2019 and 2018 was $11.8 million and $12.2 million, respectively. Net cash used in operating activities during each of these periods consisted primarily of our net loss adjusted for noncash items such as depreciation, amortization, stock-based compensation charges, and impairment charge as well as net changes in working capital. Cash used for general and administrative expenses decreased approximately $0.5 million during the six months ended June 30, 2019 as compared to the same period last year.

Net cash used in investing activities

Net cash used in investing activities for the six months ended June 30, 2019 and 2018 was $4.3 million and $2.4 million, respectively. Net cash used in investing activities during each of these periods consisted primarily of purchases of fixed assets related to the build-out of our TRIC recycling facility in Nevada. In March of 2019, we disposed of the capital shares of our UK subsidiary, Ebonex IPR, Ltd. The sale price was a nominal cash amount and did not contribute to net cash used in investing activities.

Net cash provided by financing activities

Net cash provided by financing activities for the six months ended June 30, 2019 consisted of $9.1 million net proceeds from our January 2019 public offering and $20.3 million net proceeds from our May 2019 public offering. This increase was offset by a $6.7 million payoff of the Interstate Battery convertible note. Net cash provided by financing activities for the six months

ended June 30, 2018 consisted of $26.6 million net proceeds from our June 2018 public offering and $2.1 million net proceeds from the January 2018 exercise of the underwriter's overallotment option related to our December 2017 public offering.

As of the date of this report, we believe that our working capital is sufficient to fund our current level of operations at TRIC over the next twelve months. However, we will require additional capital in order to increase production of AquaRefined lead at TRIC beyond the planned 16 modules, and to fund our continued losses from operations until such time as we are able to achieve positive cash flow from operations. We intend to seek additional funds through various financing sources, including the sale of our equity and debt securities, licensing fees for our technology, joint ventures with capital partners and/or project financing of our recycling facilities. However, there can be no guarantees that such funds will be available on commercially reasonable terms, if at all. If such financing is not available on satisfactory terms, we may be unable to further pursue our business plan and we may be unable to continue operations. Additionally, we were not in compliance with the minimum debt service coverage ratio covenant on our loan from Green Bank as of the fiscal quarter ends between March 31, 2017, and June 30, 2019. We received a waiver for the minimum debt service coverage ratio covenant for those periods. While we expect to continue to receive waivers from Green Bank for non-compliance with such covenant, there is no guarantee that we will receive such waivers. If Green Bank determines not to grant us a waiver for non-compliance in the future, we would be in default of the loan and Green Bank would be able to accelerate the payment of all amounts under the loan.

On April 23, 2019, we reached an agreement with our primary lender, Green Bank, to waive certain covenants and allow us to enter into new capital and/or operating leases. Pursuant to the waiver, we are approved to enter into new capital and/or operating leases in the total amount of up to $5.0 million.

Off-Balance Sheet Arrangements

We do not have any off-balance sheet financing arrangements.

Item 3. Quantitative and Qualitative Disclosures about Market Risk

We do not enter into financial instruments for trading or speculative purpose. Our primary exposure to market risk is interest expense related to our debt with Green Bank. The interest rate on this loan adjusts on the first day of each calendar quarter equal to the greater of six percent (6%) or two percent (2%) per annum above the minimum prime lending rate charged by large U.S. money center commercial banks as published by the Wall Street Journal. We experience potential market risk with respect to the volatility of lead commodity prices since the purchase price of our primary raw material, used LABs and the sales price of our lead-based finished products are based on commodity pricing. However, due to the relatively short turnaround between the purchase of used LABs and the sale of our finished goods, we believe the risk is minimal.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our chief executive officer and chief financial officer, evaluated the effectiveness of the design and operation of our disclosure controls and procedures pursuant to Rule 13a-15 of the Securities Exchange Act of 1934. Based on that evaluation, management, including our chief executive officer and chief financial officer, concluded that our disclosure controls and procedures were effective as of June 30, 2019.

Changes in Internal Control Over Financial Reporting

There were no changes in our internal control over financial reporting that occurred during the three month period ended June 30, 2019 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II - OTHER INFORMATION

Item 1. Legal Proceedings

Beginning on December 15, 2017, three purported class action lawsuits were filed in the United Stated District Court for the Northern District California against the Company and certain of our former executive officers, Stephen Clarke, Thomas Murphy and Mark Weinswig. On March 23, 2018, the cases were consolidated under the caption In Re: Aqua Metals, Inc. Securities Litigation Case No 3:17-cv-7142. On May 23, 2018, the Court appointed lead plaintiffs and approved counsel for the lead plaintiffs. On July 20, 2018, the lead plaintiffs filed a consolidated amended complaint ("Amended Complaint"), on behalf of a class of persons who purchased the Company's securities between May 19, 2016 and November 9, 2017, against the Company, Stephen Clarke, Thomas Murphy and Selwyn Mould. The Amended Complaint alleges the defendants made false and misleading statements concerning the Company's lead recycling operations in violation of Section 10(b) of the Securities Exchange Act of 1934 ("Exchange Act") and Rule 10b-5 promulgated thereunder. The Amended Complaint seeks to hold the individual defendants as control persons pursuant to Section 20(a) of the Exchange Act. The Amended Complaint also alleges a violation of Section 11 of the Securities Act of 1933 ("Securities Act") based on alleged false and misleading statements concerning the Company's lead recycling operations contained in, or incorporated by reference in, the Company's Registration Statement on Form S-3 filed in connection with its November 2016 public offering. That claim is asserted on behalf of a class of persons who purchased shares pursuant to, or that are traceable to, that Registration Statement. The Amended Complaint seeks to hold the individual defendants liable as control persons pursuant to Section 15 of the Securities Act. The Amended Complaint seeks unspecified damages and plaintiffs' attorneys' fees and costs. On September 18, 2018, the defendants filed a motion to dismiss the Amended Complaint in its entirety and the plaintiff subsequently filed its opposition to the motion. In January 2019, the court notified the parties that it will rule on the motion to dismiss without a hearing. We deny that the claims in the Amended Complaint have any merit and intend to vigorously defend the action.

Beginning on February 2, 2018, five purported shareholder derivative actions were filed in the United States District Court for the District of Delaware against the Company and certain of our current and former executive officers and directors, Stephen Clarke, Selwyn Mould, Thomas Murphy, Mark Weinswig, Vincent DiVito, Mark Slade and Mark Stevenson. On May 3, 2018, the cases were consolidated under the caption In re Aqua Metals, Inc. Stockholder Derivative Litigation, Case No. 1:18-cv-201-LPS (D. Del.). The complaints were filed by persons claiming to be stockholders of Aqua Metals and generally allege that certain of the Company's officers and directors breached their fiduciary duties to the Company by violating the federal securities laws and exposing the Company to possible financial liability. The complaints seek unspecified damages and plaintiffs' attorneys' fees and costs. The parties have entered into a stipulation staying the action until 30 days after a decision on the Company's motion to dismiss the Amended Complaint in the class action described above. We deny that the claims in the shareholder derivative action have any merit and intend to vigorously defend the action.

We may, from time to time, be party to litigation and subject to claims incident to the ordinary course of business. As our growth continues, we may become party to an increasing number of litigation matters and claims. The outcome of litigation and claims cannot be predicted with certainty, and the resolution of any future matters could materially affect our future financial position, results of operations or cash flows.

Item 1A. Risk Factors

Investing in our common stock involves a high degree of risk. Before purchasing our common stock, you should read and consider carefully the following risk factors as well as all other information contained in this report, including our consolidated financial statements and the related notes. Each of these risk factors, either alone or taken together, could adversely affect our business, operating results and financial condition, as well as adversely affect the value of an investment in our common stock. There may be additional risks that we do not presently know of or that we currently believe are immaterial, which could also impair our business and financial position. If any of the events described below were to occur, our financial condition, our ability to access capital resources, our results of operations and/or our future growth prospects could be materially and adversely affected and the market price of our common stock could decline. As a result, you could lose some or all of any investment you may make in our common stock.

Risks Related to Our Business

Since we have a limited operating history and have only recently commenced revenue producing operations, it is difficult for potential investors to evaluate our business. We formed our corporation in June 2014 and only commenced revenue producing operations in the first quarter of 2017. From inception through June 30, 2019, we generated a total of $8.5 million of revenue, all of which was derived primarily from the sale of lead compounds and plastics and, to a lesser extent, the sale of lead bullion and Aqua Refined lead. To date, our operations have primarily consisted of the development and testing of our AquaRefining process, the construction of our initial LAB recycling facility at TRIC, the continuing development of our LAB recycling operations at TRIC and limited revenue producing operations as we bring those LAB recycling operations online. Our limited operating history makes it difficult for potential investors to evaluate our technology or prospective operations. As an early stage company, we are subject to all the risks inherent in the initial organization, financing, expenditures, complications and delays in a new business, including, without limitation:

- the timing and success of our plan of commercialization and the fact that we continue to experience delays in ramping up our LAB recycling operations at TRIC;
- our ability to bring modules online and ramp up production on a commercial scale;
- our ability to profitably operate our AquaRefining process on a commercial scale;
- our ability to realize the expected benefits of our strategic partnerships with Clarios and Veolia;
- our ability to procure LABs in sufficient quantities at competitive prices; and
- our ability to receive proper certification from and meet the requirements of our customers regarding the purity of our AquaRefined lead.

Investors should evaluate an investment in us in light of the uncertainties encountered by developing companies in a competitive environment. There can be no assurance that our efforts will be successful or that we will ultimately be able to attain profitability.

Our business is dependent upon our successful implementation of novel and unproven technologies and processes and there can be no assurance that we will be able to implement such technologies and processes in a manner that supports the successful commercial roll-out of our business model. While much of the technology and processes involved in our lead recycling operations are widely used and proven, the AquaRefining component of our lead recycling operations is largely novel and unproven. While we have shown that our proprietary technology can produce AquaRefined lead on a small scale, we have only recently completed, and put into limited operation, the processes that we believe will support the production of AquaRefined lead on a commercial scale. Further, as we complete our AquaRefining production line, we continue to encounter unforeseen complications that have delayed the ramping up of our AquaRefining modules and the integration of our AquaRefining process with the traditional lead recycling operations. There can be no assurance that we will be able to overcome these production and performance issues in a timely manner or that we will not encounter additional unforeseen complications that will cause further delays in our planned commercial roll-out of all 16 AquaRefining modules installed at TRIC and to ramp up the production of AquaRefined lead.

We will need additional financing to execute our business plan and fund operations, which additional financing may not be available on reasonable terms or at all. As of June 30, 2019, we had total cash of $27.3 million and working capital of $22.0 million. As of the date of this report, we believe that we have working capital sufficient to fund our current level of operations at TRIC over the next twelve months. However, we will require additional capital in order to increase production of AquaRefined lead at TRIC beyond the planned 16 modules, to work with Clarios on equipment integration and licensing to third parties and to fund our continued losses from operations until such time as we are able to achieve positive cash flow from operations. There can be no assurance that we will be able to acquire the necessary funding on commercially reasonable terms or at all. There can

also be no assurance we will be able to conclude the proposed development agreement with Clarios. We intend to seek additional funds through various financing sources, including the sale of our equity and debt securities, licensing fees for our technology, joint ventures with capital partners and/or project financing of our recycling facilities. However, there can be no assurance that such funds will be available on commercially reasonable terms, if at all. If such funding is not available on satisfactory terms, we may be unable to further pursue our business plan and we may be unable to continue operations, in which case you may lose your entire investment.

Veolia currently plays a substantial role in the operation and management of our TRIC facility and will potentially play a substantial role in any future facilities we may develop, and there can be no assurance that we will realize the intended benefits of our relationship with Veolia or, if we do, that we will not develop a dependency on Veolia. In February 2019, we entered into an Operations, Management and Maintenance Agreement with Veolia North America Regeneration Services, LLC, or Veolia. Pursuant to the Agreement, Veolia will provide operations, maintenance and management services at our AquaRefining facility at TRIC. We expect Veolia to contribute operational and technological expertise and organizational capabilities in aqueous based process chemistries and electrolysis along with taking on responsibility for operations, supply chain, offtake and management of the plant. While we believe the Agreement will allow us to leverage Veolia's operations and process engineering expertise and supply chain, offtake and waste stream buying power and expertise, there can be no assurance that we will realize the expected benefits our agreement with Veolia. In addition, we have agreed to potentially grant Veolia the right of first refusal to operate and manage any future facilities developed or licensed by us. It is our expectation that Veolia will serve as our go-to-market execution partner to staff and manage AquaRefining facilities with mutually agreed performance metrics for Aqua Metals and our partners. In the event Veolia is successful in operating and managing the recycling facilities developed by us and our licensees, there is a risk that we will become dependent on Veolia for the operational and managerial expertise and labor. There can be no assurance that Veolia will be successful in managing our recycling facilities and those of our partners. There can also be no assurance that Veolia will continue to provide such services in the future, in which case the loss of Veolia as our service provider could cause a serious disruption in our operations.

There can be no assurance that we will be able to negotiate a long-term agreement with Veolia, in which case we may lose Veolia's services at the end of the two-year term of our initial agreement. Our Operations, Management and Maintenance Agreement (the "Agreement") with Veolia is for a two-year term. Pursuant to the Agreement, we have agreed to enter into good faith negotiations for a longer-term version of the Agreement that will provide for Veolia's management and operation of the TRIC facility for a ten-year term, including expanding our TRIC facility to 32 AquaRefining modules. We have agreed with Veolia to use our good faith commercial best-efforts to conclude negotiations for the long-term agreement by September 30, 2020. We have also agreed to enter into good faith negotiations with Veolia for a long-term agreement concerning Veolia's participation in the commercial licensing and management of our future AquaRefining facilities developed by licensees of Aqua Metals. We have agreed with Veolia to use our good faith commercial best-efforts to conclude negotiations for the long-term licensing and future facilities agreement by June 30, 2020. There can be no assurance that we will be able to negotiate and conclude definitive long-term agreements with Veolia on commercially reasonable terms, or at all. If we are unable to conclude long-term agreements with Veolia by the designated dates, it is likely that we will lose Veolia as the operator and manager of our TRIC facility.

Additionally, pursuant to the Agreement, Veolia may elect to terminate the Agreement in the event that we fail to secure sufficient financing by September 30, 2019. The purpose of the financing is to implement the expansion of our TRIC facility to 32 AquaRefining modules. There can be no assurance that we will be able to secure sufficient financing by September 30, 2019. If we are unable to do so, we may not only lose Veolia as our partner to manage the TRIC facility, but we also may not be able to expand our TRIC facility to 32 AquaRefining modules by 2020.

We are subject to restrictive debt covenants that may limit our ability to run our business, finance our capital needs and pursue business opportunities and activities. As of the date of this report, we are indebted to Green Bank for approximately $9.4 million, which is secured by liens on substantially all of our assets. The credit agreement governing such indebtedness contains covenants that limit our ability to take certain actions. These covenants could limit our ability to finance our future operations and capital needs and our ability to pursue business opportunities and activities that may be in our interest. If we breach any of these covenants, the debt holder could declare a default under the credit agreement, in which case all of the indebtedness may then become immediately due and payable. If the debt under the credit agreement is accelerated, we may not have, or be able to obtain, sufficient funds to make these accelerated payments. In addition, since all of the indebtedness to Green Bank is secured by substantially all of our assets, a default under the credit facility could enable the debt holder to foreclose on its security interest and attempt to seize our assets. The affirmative and negative debt covenants could materially adversely impact our ability to operate and finance our business. In addition, our default under any of these covenants could subject us to accelerated debt payments or foreclosure proceedings that could threaten our ability to continue as a going concern.

Additionally, we were not in compliance with the minimum debt service coverage ratio covenant on our loan from Green Bank as of the fiscal quarter ends between March 31, 2017, and June 30, 2019. We received a waiver for the minimum debt service

coverage ratio covenant for those periods. While we expect to continue to receive waivers from Green Bank for non-compliance with such covenant, there is no guarantee that we will receive such waivers. If Green Bank determines not to grant us a waiver for non-compliance in the future, we would be in default of the loan and Green Bank would be able to accelerate the payment of all amounts under the loan.

In the event of the acceleration of the Green Bank loan, we will need additional financing to satisfy our obligations under the loan, which additional financing may not be available on reasonable terms or at all. As noted above, as of the date of this report, we are indebted to Green Bank for approximately $9.4 million. The credit agreement governing such indebtedness contain various affirmative and negative covenants and if we breach any of these covenants, the debt holder could declare a default under the credit agreement, in which case all of the indebtedness may then become immediately due and payable. If the debt under the credit agreement is accelerated, we may not have sufficient funds to make the accelerated payments, in which case we would be required to seek additional funds through various financing sources, most likely through the sale of our equity or debt securities. However, there can be no assurance that such funds will be available on commercially reasonable terms, if at all. Further, any sale of our equity or equity-linked securities will result in additional dilution to our stockholders.

Our outstanding debt may make it difficult for us obtain additional financing using our future operating cash flow.We currently owe approximately $9.4 million to Green Bank as of the date of this report. Such indebtedness could limit our ability to borrow additional funds to fund operations or expansion or increase the cost of any such borrowing, or both. Our inability to conduct additional debt financing could:

- limit our flexibility in developing our business operations and planning for, or reacting to, changes in our business;
- increase our vulnerability to, and reduce our flexibility to respond to, general adverse economic and industry conditions; and
- place us at a competitive disadvantage as compared to our competitors that are not as highly leveraged.

Any of these or other consequences or events could have a material adverse effect on our ability to finance our business and our operations.

Our business model is new and has not been proven by us or anyone else We are engaged in the business of producing recycled lead through a novel and unproven technology. While the production of recycled lead is an established business, to date all recycled lead has been produced by way of traditional smelting processes. To our knowledge, no one has successfully produced recycled lead in commercial quantities other than by way of smelting. In addition, our lead recycling production line at TRIC is the first-of-its-kind and neither we nor anyone else has ever successfully built a production line that commercially recycles LABs without smelting. While we have commenced limited lead recycling operations at our TRIC facility, through June 30, 2019 all of our revenues have been derived primarily from the sale of lead compounds and plastics and, to a lesser extent, the sale of lead bullion and AquaRefined lead. In April 2018, we commenced the limited production of cast lead bullion (mixture of lead purchased to prime the kettles and AquaRefined lead from our AquaRefining process), and in June 2018 we commenced the sale of AquaRefined lead in the form of two tonne blocks. In the second quarter of 2019 we began to scale our operations. In addition to the general risks associated with a novel and unproven technology, our business model is subject to a number of related risks, including:

- our ability to acquire sufficient quantities of used LABs at competitive prices;
- our ability to produce AquaRefined lead that is priced competitively with lead produced by traditional smelting;
- our ability to produce AquaRefined lead on a commercial scale and at an adequate gross profit; and
- our ability to sell our AquaRefined lead at prices and in quantities that provide an adequate net profit from operations.

Further, there can be no assurance that we will be able to produce AquaRefined lead in commercial quantities at a cost of production that will provide us and our proposed licensees with an adequate profit margin. The uniqueness of our AquaRefining process and our production line at TRIC presents potential risks associated with the development of a business model that is untried and unproven. As of the date of this report, we have begun to ramp up our existing AquaRefining modules into commercial operation, however we have experienced performance and production issues and there can be no assurance that we will be able to overcome these production and performance issues in a timely manner or that we will not encounter additional unforeseen complications that will cause further delays in our planned commercial roll-out of our AquaRefining modules and the ramp up the production of AquaRefined lead.

Certain industry participants may have the ability to restrict our access to used LABs and otherwise focus significant competitive pressure on us We believe that our primary competition will come from operators of existing smelters and other parties invested in the existing supply chain for smelting, both of which may resist the change presented by our AquaRefining process. Competition from such incumbents may come in the form of restricted access to used LABs. We believe that LAB manufacturers who also maintain their own smelting operations control a significant part of the market for used LABs. We will

require access to used LABs at market prices in order to carry out our business plan. If those LAB manufacturers and others involved in the reverse supply chain for used LABs attempt to restrict our access to used LABs, that may adversely affect our prospects and future growth. There can be no assurance that we will be able to effectively withstand the pressures applied by our competition.

Even if we are successful in recycling lead using our processes, there can be no assurance that the AquaRefined lead will meet the certification and purity requirements of our potential customers. A key component of our business plan is to produce recycled lead through our AquaRefining process of the highest purity (at least 99.99% pure lead), which we refer to as AquaRefined lead. We believe that our AquaRefined lead will provide us with a revenue premium over the market price of lead on the London Metal Exchange, or LME, and, more importantly, our ability to produce AquaRefined lead will be vital to confirming the efficacy and relevancy of our proprietary technology. Our customers will require that our AquaRefined lead meet certain minimum purity standards and, in all likelihood, require independent assays to confirm the lead's purity. As of the date of this report, we have produced limited quantities of AquaRefined lead and in November 2018 Clarios confirmed its approval of the purity of our AquaRefined lead by providing to us official vendor approval to receive finished lead at its manufacturing facilities. However, we have not produced AquaRefined lead in commercial quantities and there can be no assurance that we will be able to do so or, if we are able to produce AquaRefined lead in commercial quantities, that such lead will continue to meet the required purity standards of our customers.

While we have been successful in producing AquaRefined lead in small volumes, there can be no assurance that we will be able to replicate the process, along with all of the expected economic advantages, on a large commercial scale either for us or our prospective licensees. As of the date of this report, our commercial operations have primarily involved the production of lead compounds and plastics from recycled LABs and, to a lesser extent, the sale of lead bullion and Aqua Refined lead. In April 2018, we commenced the limited production of cast lead bullion (mixture of lead purchased to prime the kettles and AquaRefined lead from our AquaRefining process), and in June 2018 we commenced the sale of pure AquaRefined lead in the form of two tonne blocks. While we believe that our development, testing and limited production to date has validated the concept of our AquaRefining process, the limited nature of our operations to date are not sufficient to confirm the economic returns on our production of recycled lead. There can be no assurance that the commencement of commercial production of AquaRefined lead at our TRIC facility will not incur unexpected costs or setbacks that might restrict the desired scale of our intended operations or that we will be to produce AquaRefined lead in commercial quantities at a cost of production that will provide us and our proposed licensees with an adequate profit margin.

We have completed the construction of our initial LAB recycling facility at TRIC, however we have been delayed in the ramping up of our lead recycling operations at TRIC and we may encounter further delays. We completed the construction of our initial LAB recycling facility at TRIC in August 2016 and commenced the limited production of recycled lead in the first quarter of 2017. However, we only recently commenced the limited commercial production of AquaRefined lead. We have encountered production and performance issues that have impaired and delayed our ability to ramp up the production of AquaRefined lead. There can be no assurance that we will not encounter additional production and performance issues in the future or, if we do, be able to overcome them in a timely manner. In addition, since our lead recycling production line at TRIC is the first-of-its-kind, neither we nor anyone else has ever built a facility of this nature and there can be no assurance that we will not experience additional operational delays and issues, including significant downtime from time to time, as we progress into the commercial production of AquaRefined lead. There can be no assurance that the commencement of commercial AquaRefining operations at our TRIC facility will not incur unexpected costs or hurdles that might restrict the desired scale of our intended operations or negatively impact our projected gross profit margin.

We were able to successfully staff our operations 24/7 in April 2019, supporting continuous production of one to four AquaRefining modules at any given time. However, as we begin to roll out modules five through eight, we may face additional delays and incur more costs that could restrict our ability to maintain 24/7 capabilities. Such setbacks could also delay our ability to reach our target of having 16 AquaRefining modules in operation by the end of 2019.

Our business may be negatively affected by labor issues and higher labor costs. Our ability to maintain our workforce depends on our ability to attract and retain new and existing employees. As of the date of this report, none of our employees are covered by collective bargaining agreements and we consider our labor relations to be acceptable. However, we could experience workforce dissatisfaction which could trigger bargaining issues, employment discrimination liability issues as well as wage and benefit consequences, especially during critical operation periods. We could also experience a work stoppage or other disputes which could disrupt our operations and could harm our operating results. In addition, legislation or changes in regulations could result in labor shortages and higher labor costs. There can be no assurance that we may not experience labor issues that negatively impact our operations or results of operations.

Our intellectual property rights may not be adequate to protect our business As of the date of this report, we have secured granted/allowed patents in the following countries/regions: U.S. (9837689, 10340561, 10316420), Canada (2930945), China (105981212, allowed 201680041675.8), Europe (3072180), Eurasia (32371), South Africa (2016-04083), Korea (101739414, 101882932, 101926033), Japan (6173595), Mexico (357027), OAPI (17808), Ukraine (118037, allowed 2017 05914), Vietnam (allowed 1-2016-02246) and Australia (2014353227, 2015350562, 2017213449).

We also have further patent applications pending in the United States and numerous corresponding patent applications pending in 20 additional jurisdictions relating to certain elements of the technology underlying our AquaRefining process and related apparatus and chemical formulations. However, no assurances can be given that any patent issued, or any patents issued on our current and any future patent applications, will be sufficiently broad to adequately protect our technology. In addition, we cannot assure you that any patents issued now or in the future will not be challenged, invalidated, or circumvented.

Even patents issued to us may not stop a competitor from illegally using our patented processes and materials. In such event, we would incur substantial costs and expenses, including lost time of management in addressing and litigating, if necessary, such matters. Additionally, we rely upon a combination of trade secret laws and nondisclosure agreements with third parties and employees having access to confidential information or receiving unpatented proprietary know-how, trade secrets and technology to protect our proprietary rights and technology. These laws and agreements provide only limited protection. We can give no assurance that these measures will adequately protect us from misappropriation of proprietary information.

Our processes may infringe on the intellectual property rights of others, which could lead to costly disputes or disruptions The applied science industry is characterized by frequent allegations of intellectual property infringement. Though we do not expect to be subject to any of these allegations, any allegation of infringement could be time consuming and expensive to defend or resolve, result in substantial diversion of management resources, cause suspension of operations or force us to enter into royalty, license, or other agreements rather than dispute the merits of such allegation. If patent holders or other holders of intellectual property initiate legal proceedings, we may be forced into protracted and costly litigation. We may not be successful in defending such litigation and may not be able to procure any required royalty or license agreements on acceptable terms or at all.

Our business strategy includes licensing arrangements and entering into joint ventures and strategic alliances, however as of the date of this report we have no such agreements in place and there can be no assurance we will be able to do so. Failure to successfully integrate such licensing arrangements, joint ventures, or strategic alliances into our operations could adversely affect our business. We propose to commercially exploit our AquaRefining process primarily by licensing our technology to third parties and entering into joint ventures and strategic relationships with parties involved in the manufacture and recycling of LABs, including Clarios, among others. Although we are currently seeking to negotiate such an agreement with Clarios as further discussed in the following paragraph, as of the date of this report, we have not entered into any such licensing, joint venture or strategic alliance agreements, apart from our equipment supply agreement with Clarios, and there can be no assurance that we will be able to do so on terms that benefit us, if at all. In addition, licensing programs, joint ventures and strategic alliances may involve significant other risks and uncertainties, insufficient revenue generation to offset liabilities assumed and expenses associated with the transaction, potential additional challenges in protecting our intellectual property, and unidentified issues not discovered in our due diligence process, such as product quality, technology issues and legal contingencies. In addition, we may be unable to effectively integrate any such programs and ventures into our operations. Our operating results could be adversely affected by any problems arising during or from any licenses, joint ventures or strategic alliances.

There can be no assurance that we will be able to negotiate our key agreement with Clarios on commercially reasonable terms, or at allIn February 2017, we entered into a series of agreements with Clarios, including an equipment supply agreement pursuant to which, among other things, we agreed to work with Clarios on the development of a program for the conversion of Clarios and certain strategic partners of Clarios' existing lead smelters throughout North and South America, China and Europe to a lead recycling process utilizing our AquaRefining technology and equipment, know-how and services. The equipment supply agreement discusses the development of the conversion program in general terms and contemplates that the parties will enter into a definitive development program agreement that is based on the general terms set forth in the equipment supply agreement and provides more detailed terms and conditions, including the economic obligations and rights of each party. We have agreed not to license our AquaRefining technology and equipment to third parties in the aforementioned regions until such time as we and Clarios have agreed on certain matters relating to the initial conversion of a Clarios facility. In June 2019, Clarios and we entered into an amendment to the equipment supply agreement pursuant to which we have agreed to use good faith, commercial best-efforts to conclude the discussion and negotiation of, and enter into, a development program agreement no later than the 90th day following our satisfaction of certain performance criteria agreed upon by Clarios and us. The equipment supply agreement may be terminated by either party upon 60 days' prior written notice if the parties have not entered into the development program agreement by June 30, 2021 There can be no assurance that we will be able to negotiate and conclude a definitive development program agreement with Clarios on commercially reasonable terms, or at all.

The division of Johnson Controls with which we interact was recently sold and there can be no assurance that the new owners of the division will maintain the same level of interest in and commitment to the proposed joint development of our AquaRefining technologies. On May 1, 2019, Johnson Controls International plc announced that it had completed the sale of its battery group assets, formerly held by Johnson Controls Battery Group, Inc., to Brookfield Business Partners L.P. The acquired battery group assets will operate under the name Clarios. Based on our conversations with Johnson Controls, it is our understanding that the agreements and proposed business projects between us and Johnson Controls Battery Group, Inc. (collectively, the "Aqua Metals Collaboration") are now under the control of Clarios, and that certain members of the former management of Johnson Controls Battery Group, Inc. will be employed in similar capacities by Clarios. We have also been advised that Clarios and Brookfield Business Partners L.P. have expressed their interest in continuing the Aqua Metals Collaboration initiated by us and Johnson Controls Battery Group, Inc. Although there can be no assurance that Clarios currently has, and/or will maintain, the same level of interest in our joint collaboration as its predecessor, as Clarios could, for example, no longer have an interest in our technologies or have competing priorities, we currently have no reason to believe that Clarios and Brookfield Business Partners L.P. have lost interest. In addition, the change of control of the battery group may cause disruptions and distractions that adversely affect its ability to further the Aqua Metals Collaboration. For these and other reasons, Johnson Controls' sale of its battery group assets to Brookfield Business Partners L.P. could possibly have a material adverse effect on the Aqua Metals Collaboration.

We are dependent on a limited number of suppliers of certain materials used in our AquaRefining process and our inability to obtain these materials as and when needed could cause a material disruption in our operations. Our AquaRefining process involves a significant number of elements, chemicals, solvents and other materials, in addition to used LABs. There are a limited number of suppliers of certain materials used in our AquaRefining process and, other than our Supply Agreement with Interstate Battery Recycling, LLC, we have no agreements in place for our supply of such materials. Our ability to conduct our AquaRefining process on a commercial scale will depend significantly on obtaining timely and adequate supply of these materials on competitive terms. Our inability to source these materials on a timely and cost-efficient manner could interrupt our operations, significantly limit our revenue sales and increase our costs. This factor could also impair our ability to meet our commitments to supply our customers. Our inability to obtain these materials as and when needed could cause a material disruption in our operations.

If we are unable to manage future expansion effectively, our business, operations and financial condition may suffer significantly, resulting in decreased productivity. If our AquaRefining process proves to be commercially viable, growth and expansion activities could place a significant strain on our managerial, administrative, technical, operational and financial resources. Our organization, procedures and management may not be adequate to fully support the expansion of our operations or the efficient execution of our business strategy. If we are unable to manage future expansion effectively, our business, operations and financial condition may suffer significantly, resulting in decreased productivity.

We may experience significant fluctuations in raw material prices and the price of our principal product, either of which could have a material adverse effect on our liquidity, growth prospects and results of operations. Used LABs are our primary raw material and we believe that in recent years the cost of used LABs has been volatile at times. In addition, we believe that the cost of used LABs can be seasonal, with prices trending lower in the winter months (as automobile owners increase their purchase of new LABs, thereby putting a greater number of used LABs on the market) and trend higher in the spring (as the purchase of new LABs, and supply of used LABs, decreases). Our principal product, recycled lead, has also experienced price volatility from time to time as well. For example, the market price of lead on the LME during 2018 ranged from approximately $1,900 to $2,700 per tonne. While we intend to pursue supply and tolling arrangements as appropriate to offset any price volatility, the volatile nature of prices for used LABs and recycled lead could have an adverse impact on our liquidity, growth prospects and results of operations.

Global economic conditions could negatively affect our prospects for growth and operating results Our prospects for growth and operating results will be directly affected by the general global economic conditions of the industries in which our suppliers, partners and customer groups operate. We believe that the market price of our principal product, recycled lead, is relatively volatile and reacts to general global economic conditions. Lead prices decreased from $2,139 per tonne on May 5, 2015 to a low of $1,554 per tonne on November 23, 2015 because of fluctuations in the market. A month later, the price per tonne increased back up to $1,801 per tonne; the price on June 30, 2019 was $1,933 per tonne. Our business will be highly dependent on the economic and market conditions in each of the geographic areas in which we operate. These conditions affect our business by reducing the demand for LABs and decreasing the price of lead in times of economic down turn and increasing the price of used LABs in times of increasing demand of LABs and recycled lead. There can be no assurance that global economic conditions will not negatively impact our liquidity, growth prospects and results of operations.

We are subject to the risks of conducting business outside the United States A part of our strategy involves our pursuit of growth opportunities in certain international market locations. We intend to pursue licensing or joint venture arrangements

with local partners who will be primarily responsible for the day-to-day operations. Any expansion outside of the US will require significant management attention and financial resources to successfully develop and operate any such facilities, including the sales, supply and support channels, and we cannot assure you that we will be successful or that our expenditures in this effort will not exceed the amount of any resulting revenues. Our international operations expose us to risks and challenges that we would otherwise not face if we conducted our business only in the United States, such as:

- increased cost of enforcing our intellectual property rights;
- diminished ability to protect our intellectual property rights;
- heightened price sensitivities from customers in emerging markets;
- our ability to establish or contract for local manufacturing, support and service functions;
- localization of our LABs and components, including translation into foreign languages and the associated expenses;
- compliance with multiple, conflicting and changing governmental laws and regulations;
- compliance with the Federal Corrupt Practices Act and other anti-corruption laws;
- foreign currency fluctuations;
- laws favoring local competitors;
- weaker legal protections of contract terms, enforcement on collection of receivables and intellectual property rights and mechanisms for enforcing those rights;
- market disruptions created by public health crises in regions outside the United States;
- difficulties in staffing and managing foreign operations, including challenges presented by relationships with workers' councils and labor unions;
- issues related to differences in cultures and practices; and
- changing regional economic, political and regulatory conditions.

U.S. Government regulation and environmental, health and safety concerns may adversely affect our business Our operations in the United States will be subject to the federal, state and local environmental, health and safety laws applicable to the reclamation of lead acid batteries including the Occupational Safety and Health Act ("OSHA") of 1970 and comparable state statutes. Our facilities will have to obtain environmental permits or approvals to operate, including those associated with air emissions, water discharges, and waste management and storage. We may face opposition from local residents or public interest groups to the installation and operation of our facilities. In addition to permitting requirements, our operations are subject to environmental health, safety and transportation laws and regulations that govern the management of and exposure to hazardous materials such as the lead and acids involved in battery reclamation. These include hazard communication and other occupational safety requirements for employees, which may mandate industrial hygiene monitoring of employees for potential exposure to lead.

We are also subject to inspection from time to time by various federal, state and local environmental, health and safety regulatory agencies and, as a result of these inspections, we may be cited for certain items of non-compliance. For example, in August 2018, the Nevada Occupational Safety and Health Administration, or Nevada OSHA, delivered to us a citation and notification of penalty. The citation listed a number of items related to our compliance with Nevada OSHA's Lead Standard. We reached a settlement agreement with Nevada OSHA on the amount of penalties associated with the citation. We also agreed to engage a lead compliance expert to audit our facility at TRIC for compliance with all provision of the Lead Standard and to generate a written report with findings of any noncompliance, recommended corrective actions, and a timeframe to correct the findings of noncompliance. We agreed with Nevada OSHA to correct all findings of noncompliance within the timeframe proposed by the lead compliance expert in their report. The lead compliance expert has been engaged, has visited the facility at TRIC and is in the process of completing the written report. We intend to correct any findings of noncompliance in a timely manner.

Failure to comply with the requirements of federal, state and local environmental, health and safety laws could subject our business to significant penalties (civil or criminal) and other sanctions that could adversely affect our business. In addition, in the event we are unable to present and operate our AquaRefining process and operations as safe and environmentally responsible, we may face opposition from local governments, residents or public interest groups to the installation and operation of our facilities.

The development of new AquaRefining facilities by us or our partners or licensees, and the expansion of our operations at TRIC, will depend on our ability to acquire necessary permits and approvals, of which there can be no assurance. As noted above, our AquaRefining facilities will have to obtain environmental permits or approvals to operate, including those associated with air emissions, water discharges, and waste management and storage. In addition, we expect that our planned expansion of AquaRefining operations at TRIC will require additional permitting and approvals. Failure to secure (or significant delays in securing) the necessary permits and approvals could prevent us and our partners and licensees from pursuing additional AquaRefining facilities or expanding operations at TRIC, and otherwise adversely affect our business, financial results and growth

prospects. Further, the loss of any necessary permit or approval could result in the closure of an AquaRefining facility and the loss of our investment associated with such facility.

Our business involves the handling of hazardous materials and we may become subject to significant fines and other liabilities in the event we mishandle those materials. The nature of our operations involves risks, including the potential for exposure to hazardous materials such as lead, that could result in personal injury and property damage claims from third parties, including employees and neighbors, which claims could result in significant costs or other environmental liability. Our operations also pose a risk of releases of hazardous substances, such as lead or acids, into the environment, which can result in liabilities for the removal or remediation of such hazardous substances from the properties at which they have been released, liabilities which can be imposed regardless of fault, and our business could be held liable for the entire cost of cleanup even if we were only partially responsible. We are also subject to the possibility that we may receive notices of potential liability in connection with materials that were sent to third-party recycling, treatment, and/or disposal facilities under the Federal Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended ("CERCLA"), and comparable state statutes, which impose liability for investigation and remediation of contamination without regard to fault or the legality of the conduct that contributed to the contamination, and for damages to natural resources. Liability under CERCLA is retroactive, and, under certain circumstances, liability for the entire cost of a cleanup can be imposed on any responsible party. Any such liability could result in judgments or settlements that restrict our operations in a manner that materially adversely effects our operations and could result in fines, penalties or awards that could materially impair our financial condition and even threaten our continued operation as a going concern.

We will be subject to foreign government regulation and environmental, health and safety concerns that may adversely affect our business As our business expands outside of the United States, our operations will be subject to the environmental, health and safety laws of the countries where we do business, including permitting and compliance requirements that address the similar risks as do the laws in the United States, as well as international legal requirements such as those applicable to the transportation of hazardous materials. Depending on the country or region, these laws could be as stringent as those in the US, or they could be less stringent or not as strictly enforced. In some countries in which we are interested in expanding our business, such as Mexico and China, the relevant environmental regulatory and enforcement frameworks are in flux and subject to change. Compliance with these requirements will cause our business to incur costs, and failure to comply with these requirements could adversely affect our business.

In the event we are unable to present and operate our AquaRefining process and operations as safe and environmentally responsible, we may face opposition from local governments, residents or public interest groups to the installation and operation of our facilities.

Risks Related to Owning Our Common Stock

A securities class action lawsuit and shareholder derivative lawsuit are pending against us and could have a material adverse effect on our business, results of operations and financial condition. A putative consolidated class action lawsuit and shareholder derivative lawsuit are pending against us and certain of our current and former directors and officers. These lawsuits may divert financial and management resources that would otherwise be used to benefit our operations. Although we deny the material allegations in the lawsuits and intend to defend ourselves vigorously, defending the lawsuits could result in substantial costs. No assurances can be given that the results of these matters will be favorable to us. An adverse resolution of any of these lawsuits could have a material adverse effect on our results of operations and financial condition. In addition, we may be the target of securities-related litigation in the future, both related and unrelated to the existing class action and shareholder derivative lawsuits. Such litigation could divert our management's attention and resources, result in substantial costs, and have an adverse effect on our business, results of operations and financial condition.

We maintain director and officer insurance that we regard as reasonably adequate to protect us from potential claims; however, we are responsible for meeting certain deductibles under the policies and, in any event, we cannot assure you that the insurance coverage will adequately protect us from claims made. Further, as a result of the pending litigation the costs of insurance may increase and the availability of coverage may decrease. As a result, we may not be able to maintain our current levels of insurance at a reasonable cost, or at all, which might make it more difficult to attract qualified candidates to serve as executive officers or directors.

Our common stock is thinly traded and our share price has been volatile. Our common stock has traded on the Nasdaq Capital Market, under the symbol "AQMS", since July 31, 2015. Since that date, our common stock has at times been relatively thinly traded and subject to price volatility. There can be no assurance that we will be able to successfully maintain a liquid market for our common shares. The stock market in general, and early stage public companies in particular, has experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of such companies. If we are unable to develop and maintain a liquid market for our common shares, you may not be able to sell your common shares at prices you consider to be fair or at times that are convenient for you, or at all. In addition, following periods of volatility in the market price of a company's securities, litigation has often been brought against that company and we may become the target of litigation as a result of price volatility. Litigation could result in substantial costs and divert our management's attention and resources from our business. This could have a material adverse effect on our business, results of operations and financial condition.

We are an "emerging growth company" under the JOBS Act of 2012 and we cannot be certain if the reduced disclosure requirements applicable to emerging growth companies will make our common stock less attractive to investors. We are an "emerging growth company," as defined in the Jumpstart Our Business Startups Act of 2012 ("JOBS Act"), and we may take advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not "emerging growth companies" including, but not limited to:

- not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act;
- reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements;
- exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments; and
- extended transition periods available for complying with new or revised accounting standards.

We have chosen to "opt out" of the extended transition periods available for complying with new or revised accounting standards, but we intend to take advantage of all of the other benefits available under the JOBS Act, including the exemptions discussed above. We cannot predict if investors will find our common stock less attractive because we may rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may be more volatile.

We will remain an "emerging growth company" until 2020, although we will lose that status sooner if our revenues exceed $1.07 billion, if we issue more than $1.07 billion in non-convertible debt in a three-year period, or if the market value of our common stock that is held by non-affiliates exceeds $700 million as of any June 30.

Our status as an "emerging growth company" under the JOBS Act may make it more difficult to raise capital as and when we need it Because of the exemptions from various reporting requirements provided to us as an "emerging growth company," we may be less attractive to investors and it may be difficult for us to raise additional capital as and when we need it. Investors may be unable to compare our business with other companies in our industry if they believe that our reporting is not as transparent as other companies in our industry. If we are unable to raise additional capital as and when we need it, our financial condition and results of operations may be materially and adversely affected.

We have not paid dividends in the past and have no plans to pay dividends. We plan to reinvest all of our earnings, to the extent we have earnings, in order to develop our recycling centers and cover operating costs and to otherwise become and remain competitive. We do not plan to pay any cash dividends with respect to our securities in the foreseeable future. We cannot assure you that we would, at any time, generate sufficient surplus cash that would be available for distribution to the holders of our common stock as a dividend. Therefore, you should not expect to receive cash dividends on our common stock.

Shares eligible for future sale may adversely affect the market for our common stock Of the 56,963,354 shares of our common stock outstanding as of the date of this report, approximately 49,848,674 shares are held by "non-affiliates" and are freely tradable without restriction pursuant to Rule 144.

Our charter documents and Delaware law may inhibit a takeover that stockholders consider favorable Provisions of our certificate of incorporation and bylaws and applicable provisions of Delaware law may delay or discourage transactions involving an actual or potential change in control or change in our management, including transactions in which stockholders might otherwise receive a premium for their shares, or transactions that our stockholders might otherwise deem to be in their best interests. The provisions in our certificate of incorporation and bylaws:

- limit who may call stockholder meetings;
- do not permit stockholders to act by written consent;
- do not provide for cumulative voting rights;

- establish an advance notice procedure for stockholders' proposals to be brought before an annual meeting, including proposed nominations of persons for election to our board of directors, and
- provide that all vacancies may be filled by the affirmative vote of a majority of directors then in office, even if less than a quorum.

In addition, Section 203 of the Delaware General Corporation Law may limit our ability to engage in any business combination with a person who beneficially owns 15% or more of our outstanding voting stock unless certain conditions are satisfied. This restriction lasts for a period of three years following the share acquisition. These provisions may have the effect of entrenching our management team and may deprive you of the opportunity to sell your shares to potential acquirers at a premium over prevailing prices. This potential inability to obtain a control premium could reduce the price of our common stock.

Our bylaws designate the Court of Chancery of the State of Delaware as the sole and exclusive forum for certain litigation that may be initiated by our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with the Company. Our bylaws provide that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware shall be the sole and exclusive forum for (i) any derivative action or proceeding brought on our behalf, (ii) any action asserting a claim of breach of fiduciary duty owed by any of our directors, officers or other employees to us or our stockholders, (iii) any action asserting a claim against us or any our directors, officers or other employees arising pursuant to any provision of the Delaware General Corporation Law or our certificate of incorporation or bylaws, or (iv) any action asserting a claim against us or any our directors, officers or other employees governed by the internal affairs doctrine. This forum selection provision in our bylaws may limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or any our directors, officers or other employees.

Item 6. Exhibits

Exhibit No.	Description	Method of Filing
3.1	First Amended and Restated Certificate of Incorporation of the Registrant	Incorporated by reference from the Registrant's Registration Statement on Form S-1 filed on July 22, 2015.
3.2	Second Amended and Restated Bylaws of the Registrant	Incorporated by reference from the Registrant's Current Report on Form 8-K filed on September 27. 2018.
3.3	Certificate of Amendment to First Amended and Restated Certificate of Incorporation of the Registrant	Incorporated by reference from the Registrant's Registration Statement on Form S-1 filed on June 9, 2015.
3.4	Certificate of Amendment to the First Amended and Restated Certificate of Incorporation	Incorporated by reference from the Registrant's Quarterly Report on Form 10Q filed on May 9, 2019
10.1	Underwriting Agreement dated as of May 10, 2019 between the Company and Oppenheimer & Co. Inc., as representative of the several underwriters thereto	Incorporated by reference from the Registrant's Quarterly Report on Form 8-K filed on May 10, 2019
10.2+	Second Amendment dated June 27, 2019 to Equipment Supply Agreement dated April 16, 2018 between the Registrant and Clarios	Filed electronically herewith
31.1	Certifications Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.	Filed electronically herewith
31.2	Certifications Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.	Filed electronically herewith
32.1	Certification of Principal Executive Officer and Principal Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (18 U.S.C. Section 1350).	Filed electronically herewith
101.INS	XBRL Instance Document	Filed electronically herewith
101.SCH	XBRL Taxonomy Extension Schema Document	Filed electronically herewith
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document	Filed electronically herewith
101.LAB	XBRL Taxonomy Extension Label Linkbase Document	Filed electronically herewith
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document	Filed electronically herewith
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document	Filed electronically herewith

+ Certain portions of the exhibit have been omitted pursuant to pursuant to Item 601(b)(10)(iv) of Regulation S-K.

SIGNATURES

In accordance with the requirements of the Exchange Act, the registrant caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

AQUA METALS, INC.

Date:	July 31, 2019	By:	/s/ *Stephen Cotton*
			Stephen Cotton, President, Chief Executive Officer and Director (Principal Executive Officer)
Date:	July 31, 2019	By:	/s/ Judd Merrill
			Judd Merrill, Chief Financial Officer (Principal Financial Officer)

CERTAIN PORTIONS OF THIS EXHIBIT HAVE BEEN OMITTED AS CONFIDENTIAL INFORMATION PURSUANT TO ITEM 601(B)(10)(IV) OF REGULATION S-K

SECOND AMENDMENT TO EQUIPMENT SUPPLY AGREEMENT

THIS SECOND AMENDMENT TO EQUIPMENT SUPPLY AGREEMENT (this " Amendment"), dated as of June 27, 2019, is made by and between Johnson Controls Battery Group, LLC, a Wisconsin limited liability company ("Clarios" or "Customer"), and Aqua Metals, Inc., a Delaware corporation ("Supplier"). Capitalized terms used and not otherwise defined in this Amendment shall have the meanings given to them in the Agreement (as defined below).

RECITALS:

WHEREAS, Supplier and Johnson Controls Battery Group, Inc., a Wisconsin corporation entered into that certain Equipment Supply Agreement dated as of February 7, 2017, as amended on April 16, 2018 (the "Agreement"), pursuant to which the Parties agreed to collaborate with respect to the development of new Customer facilities, or the retrofitting or conversion of existing Customer facilities, so that they can use AquaRefining and/or constructing additional recycling facilities capable of using AquaRefining in the production of lead; and

WHEREAS, Johnson Controls Battery Group, Inc. by operation of law through a conversion became Johnson Controls Battery Group, LLC in March 2019; and

WHEREAS, the Parties desire to further amend the Agreement on the terms and subject to the conditions set forth herein.

AGREEMENT:

NOW, THEREFORE, in consideration of the mutual covenants contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereto agree as follows:

1. Amendment to Agreement. As of the date hereof, the Agreement shall be amended as follows:

1.1 The fourth sentence of Section 2.2 of the Agreement (i.e., "The Parties agree to use their good faith, commercial best-efforts to conclude their discussion and negotiation of the Development Program no later than April 30, 2019, and to enter into, no later than June 30, 2019, a Development Program Agreement.") is hereby deleted in its entirety and replaced with the following:

"The Parties acknowledge that they have commenced their discussion and negotiation of the Development Program. The Parties agree that Supplier shall continue the development of its AquaRefining operations at its McCarran, Nevada facility with the goal of achieving the seven (7) performance standards ("Performance Standards") set forth on Exhibit A attached hereto. Upon Supplier's satisfaction of the Performance Standards, Supplier shall deliver its written notice ("Notice of Readiness") to Customer. The Parties shall use their good faith,

commercial best-efforts to enter into, no later than ninety (90) days after Customer's receipt of the Notice of Readiness, a Development Program Agreement."

1.2 Section 6.1 of the Agreement is hereby amended by replacing the reference to June 30, 2019 with June 30, 2021.

2. Effect of this Amendment. This Amendment constitutes the entire agreement of the Parties with respect to the subject matter hereof, and supersedes all prior oral or written communications, memoranda, proposals, negotiations, discussions, term sheets and commitments with respect to the subject matter hereof. Except as expressly provided herein, no other changes or modifications to the Agreement are intended or implied by this Amendment, and in all other respects the Agreement is hereby ratified, restated and confirmed by all Parties hereto and shall remain in full force and effect. To the extent that any provision of the Agreement conflicts with any provision of this Amendment, the provision of this Amendment shall control.

3. Binding Effect. This Amendment shall be binding upon and inure to the benefit of the Parties and their respective successors and assigns.

4. Notwithstanding any statement to the contrary, the Parties hereto agree that the following terms in this Amendment are incorporated into the Agreement and control and take precedence over any conflicting terms and conditions in the Agreement. Except as expressly modified by this Amendment, any terms not herein modified shall remain in full force and effect as set forth in the Agreement. Capitalized terms used but not otherwise defined in this Amendment have the meaning ascribed to them in the Agreement.

5. In the event of a conflict between the terms of the Agreement and this Amendment, the terms of this Amendment shall control.

[Continued on next page]

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

CUSTOMER:

JOHNSON CONTROLS BATTERY GROUP, LLC

By: _/s/ Thomas Parmenter___
Thomas Parmenter

SUPPLIER:

AQUA METALS, INC.

By: __/s/ Stephen Cotton______
Stephen Cotton,
President and Chief Executive Officer

EXHIBIT A

AQMS Clarios Metrics

The below metrics are to be achieved by Aqua Metals operations at their McCarran facility. All metrics will be supported by AQMS production records.

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***Text has been omitted as confidential information pursuant to Item 601(B)(10)(iv) of Regulation S-K

EXHIBIT 31.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER

Section 302 Certification

I, Stephen Cotton, certify that:

1) I have reviewed this quarterly report on Form 10-Q of Aqua Metals, Inc.;

2) Based on my knowledge, this quarterly 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 fiscal quarter presented in this 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 data 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: July 31, 2019

By: /s/ *Stephen Cotton*
Stephen Cotton, President
(Principal Executive Officer)

EXHIBIT 31.2

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER

Section 302 Certification

I, Judd Merrill, certify that:

1) I have reviewed this quarterly report on Form 10-Q of Aqua Metals, Inc.;

2) Based on my knowledge, this quarterly 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 fiscal quarter presented in this 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 data 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: July 31, 2019

By: /s/ Judd Merrill
Judd Merrill, CFO (Principal Financial Officer)

EXHIBIT 32.1

CERTIFICATION PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report of Aqua Metals, Inc. (the “Company”) on Form 10-Q for the quarterly period ended June 30, 2019, as filed with the Securities and Exchange Commission on the date hereof (the “Report”), we, Stephen Cotton, President, and Judd Merrill, CFO, of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

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

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

By:	/s/ *Stephen Cotton*	Dated:	July 31, 2019
	Stephen Cotton		
Title:	President (Principal Executive Officer)		

By:	/s/ Judd Merrill	Dated:	July 31, 2019
	Judd Merrill		
Title:	CFO (Principal Financial Officer)		

This certification is made solely for the purposes of 18 U.S.C. Section 1350, subject to the knowledge standard contained therein, and not for any other purpose.