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

FORM 10-Q

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

For the Quarterly Period Ended September 30, 2022

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.)

5370 Kietzke Lane, Suite 201
Reno, Nevada 89511
(Address of principal executive offices, including zip code)

(775) 446-4418
(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 of stock:	Trading symbol	Name of each exchange on which registered:
Common Stock	AQMS	The 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 ☒ No ☐

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, 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	☐
Non-accelerated filer	☒	Smaller reporting company	☒
		Emerging Growth Company	☐

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

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

As of October 28, 2022, there were 78,386,746 outstanding shares of the common stock of Aqua Metals, Inc.

PART I - FINANCIAL INFORMATION

Item 1. Financial Statements

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

	September 30, 2022 (unaudited)	December 31, 2021 (Note 2)
ASSETS		
Current assets		
Cash and cash equivalents	$ 9,293	$ 8,137
Accounts receivable	94	269
Lease receivable, current portion	15,811	920
Inventory	28	123
Assets held for sale	1,100	2,633
Prepaid expenses and other current assets	375	356
Total current assets	26,701	12,438
Non-current assets		
Property and equipment, net	4,629	2,367
Intellectual property, net	505	640
Investment in LINICO	2,000	1,500
Lease receivable, non-current portion	—	15,528
Other assets	1,126	796
Total non-current assets	8,260	20,831
Total assets	$ 34,961	$ 33,269
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities		
Accounts payable	$ 867	$ 685
Accrued expenses	2,863	3,005
Lease liability, current portion	302	388
Building purchase deposit, current portion	1,250	—
Notes payable	5,886	—
Total current liabilities	11,168	4,078
Non-current liabilities		
Building purchase deposit, non-current portion	—	1,328
Lease liability, non-current portion	350	330
Total liabilities	11,518	5,736
Commitments and contingencies (see Note 13)		
Stockholders' equity		
Common stock; $0.001 par value; 200,000,000 shares authorized; 78,065,455 and 70,416,552 shares issued and outstanding as of September 30, 2022 and December 31, 2021, respectively	78	70
Additional paid-in capital	218,672	211,309
Accumulated deficit	(195,307)	(183,846)
Total stockholders' equity	23,443	27,533
Total liabilities and stockholders' equity	$ 34,961	$ 33,269

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 September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Product sales	$ —	$ —	$ 4	$ —
Operating cost and expense				
Cost of product sales	833	1,670	3,026	5,417
Research and development cost	490	273	1,561	738
General and administrative expense	2,611	2,681	7,615	7,109
Total operating expense	3,934	4,624	12,202	13,264
Loss from operations	(3,934)	(4,624)	(12,198)	(13,264)
Other income and (expense)				
Insurance proceeds net of related expenses	—	4,344	—	4,792
PPP loan forgiveness	—	—	—	332
Gain (loss) on disposal of property and equipment	5	(1,411)	595	(5,665)
Interest expense	(9)	(5)	(22)	(15)
Interest and other income	53	310	166	334
Total other income (expense), net	49	3,238	739	(222)
Loss before income tax expense	(3,885)	(1,386)	(11,459)	(13,486)
Income tax expense	—	—	(2)	(2)
Net loss	$ (3,885)	$ (1,386)	$ (11,461)	$ (13,488)
Weighted average shares outstanding, basic and diluted	77,402,763	69,609,070	74,871,423	68,223,115
Basic and diluted net loss per share	$ (0.05)	$ (0.02)	$ (0.15)	$ (0.20)

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

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

	Common Stock		Additional Paid-in	Accumulated	Total Stockholders' Equity
	Shares	Amount	Capital	Deficit	(Deficit)
Balances, June 30, 2022	75,772,815	$ 76	$ 217,030	$ (191,422)	$ 25,684
Stock-based compensation	—	—	597	—	597
RSUs issued for consulting services	13,389	—	12	—	12
Common stock issued to employees and directors, includes RSUs vesting	1,089,471	1	—	—	1
Common stock issued for ATM share sales, net of $33 transaction costs	1,189,780	1	1,033	—	1,034
Net loss	—	—	—	(3,885)	(3,885)
Balances, September 30, 2022	78,065,455	$ 78	$ 218,672	$ (195,307)	$ 23,443
Balances, December 31, 2021	70,416,552	$ 70	$ 211,309	$ (183,846)	$ 27,533
Stock-based compensation	—	—	1,735	—	1,735
RSUs issued for consulting services	13,389	—	12	—	12
Common stock issued to employees and directors, includes RSUs vesting	2,228,600	2	—	—	2
Common stock issued for ATM share sales, net of $176 transaction costs	5,406,914	6	5,616	—	5,622
Net loss	—	—	—	(11,461)	(11,461)
Balances, September 30, 2022	78,065,455	$ 78	$ 218,672	$ (195,307)	$ 23,443
Balances, June 30, 2021	68,607,326	$ 69	$ 209,382	$ (177,755)	$ 31,696
Stock-based compensation	—	—	399	—	399
RSUs issued for consulting services	—	—	79	—	79
Common stock issued to employees and directors, includes RSUs vesting	1,216,338	1	—	—	1
Net loss	—	—	—	(1,386)	(1,386)
Balances, September 30, 2021	69,823,664	$ 70	$ 209,860	$ (179,141)	$ 30,789
Balances, December 31, 2020	64,461,065	$ 64	$ 196,728	$ (165,653)	$ 31,139
Stock-based compensation	—	—	1,696	—	1,696
RSUs issued for consulting services	—	—	114	—	114
Common stock issued to employees and directors, includes RSUs vesting	2,100,749	2	—	—	2
Common stock issued upon exercise of employee stock options	347,901	—	727	—	727
Common stock issued upon warrant exercise	65,590	—	—	—	—
Common stock issued for ATM share sales, net of $311 transaction costs	2,473,359	3	9,328	—	9,331
Common stock issued related to LINICO investment	375,000	1	1,267	—	1,268
Net loss	—	—	—	(13,488)	(13,488)
Balances, September 30, 2021	69,823,664	$ 70	$ 209,860	$ (179,141)	$ 30,789

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)

	Nine Months Ended September 30,	
	2022	**2021**
Cash flows from operating activities:		
Net loss	$ (11,461)	$ (13,488)
Reconciliation of net loss to net cash used in operating activities		
Depreciation	736	926
Amortization of intellectual property	135	135
Fair value of RSUs issued for consulting services	12	114
Stock-based compensation	1,737	1,698
Inventory NRV adjustment	—	146
Loss (gain) on disposal of property and equipment	(595)	5,665
Forgiveness of PPP Loan	—	(332)
Changes in operating assets and liabilities		
Accounts receivable	131	(218)
Inventory	95	612
Prepaid expenses and other current assets	(19)	392
Accounts payable	(35)	304
Accrued expenses	383	750
Other assets and liabilities	(427)	(457)
Net cash used in operating activities	(9,308)	(3,753)
Cash flows from investing activities:		
Purchases of property and equipment	(2,290)	(1,672)
Proceeds from sale of equipment	1,432	275
Equipment deposits and other assets	(322)	123
Investment in LINICO	(500)	(232)
Net cash used in investing activities	(1,680)	(1,506)
Cash flows from financing activities:		
Proceeds from notes payable	5,886	—
Proceeds from leasing of building	636	368
Proceeds from exercise of stock options	—	727
Proceeds from ATM, net	5,622	9,331
Net cash provided by financing activities	12,144	10,426
Net increase (decrease) in cash and cash equivalents	1,156	5,167
Cash and cash equivalents at beginning of period	8,137	6,533
Cash and cash equivalents at end of period	$ 9,293	$ 11,700

	Nine Months Ended September 30,	
	2022	**2021**
Supplemental disclosure of cash flows information		
Cash paid for income taxes	$ 2	$ 2
Cash paid for interest	$ 7	$ —
Supplemental disclosure of non-cash transactions		
Change in property and equipment resulting from change in accounts payable	$ (218)	$ 793
Change in property and equipment resulting from change in accrued expenses	$ (136)	$ —
Change in investing activity resulting from issuance of equity	$ —	$ (1,268)

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

AQUA METALS, INC.
Notes to Condensed Consolidated Financial Statements
(Unaudited)

1. Organization

Aqua Metals (NASDAQ: AQMS) is engaged in the business of applying its commercialized clean, water-based recycling technology principles to develop the clean and cost-efficient recycling solutions for both lead and lithium-ion batteries, or "Li". We offer technology licensing and related services to recyclers across the globe for lead recycling and expect to provide recycling services for Li batteries. Our recycling process is a patented hydrometallurgical technology that is a novel, proprietary and patented process we developed and named "AquaRefining". AquaRefining is a room temperature, water and organic acid-based process that greatly reduces environmental emissions. The modular Aqualyzers cleanly generate ultra-pure metal one atom at a time, closing the sustainability loop for the rapidly growing energy storage economy. Our process was originally designed for lead recycling. Lead is a globally traded commodity with a worldwide market value in excess of $20 billion. 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 are also applying our commercialized clean, water-based recycling technology principles with the goal of developing the cleanest and most cost-efficient recycling solution for lithium-ion batteries. We believe our process has the potential to produce higher quality products at a lower operating cost without the damaging effects of furnaces and greenhouse emissions. Aqua Metals estimates its total addressable market for lithium-ion battery recycling will be approximately $9 billion by 2025 and grow to exceed lead battery recycling by the end of the decade. Unlike the mature lead recycling market, the deployed lithium-ion battery recycling infrastructure to serve market growth does not exist today.

We were formed as a Delaware corporation on June 20, 2014 for the purpose of engaging in the business of recycling metals through our patent-pending process that we developed and named "AquaRefining". Since 2015, Aqua Metals has developed breakthrough metal recycling technologies that utilize a clean, closed-loop process that can produce ultra-high purity metal. Our innovative approach, AquaRefining, delivers raw materials back into the manufacturing supply chain while reducing emissions and toxic byproducts and creating a safer work environment. The patented AquaRefining modular systems have already demonstrated how they can reduce environmental impact and scale lead-acid battery recycling capacity.

We completed the development of our first LAB recycling facility at the Tahoe Reno Industrial Center in McCarran, Nevada ("TRIC") and commenced production of battery breaking. During 2020 and 2021, we successfully iterated our lead AquaRefining Aqualyzer through a 1.25 and a 1.5 version which now has triple the throughput of the 2019 iteration that produced over 35,000 industry standard ingots in commercial production. During the second half of 2022, we are deploying and operating a Phase 1 deployment of lead AquaRefining with our partner ACME Metal in Taiwan. This showcase installation will inform management of the interest in ACME to move forward with larger deployments by the first quarter of 2023 as well as other potential licensees and partners in the same timeframe.

In February 2021, we announced a strategic investment in LINICO Corporation of up to $2 million to be paid in Aqua Metals shares and cash for an approximate 12% ownership in LINICO as part of our strategy to strengthen growth by potentially applying AquaRefining intellectual property to lithium-ion battery recycling while meeting our lead recycling commercial guidance. In November 2021, Aqua Metals and LINICO signed a collaboration agreement which sets the parameters for future research and development cooperation, as both companies expand into lithium-ion battery recycling and advance our technologies designed to recycle lithium-ion batteries cost-effectively and sustainably. Aqua Metals and LINICO plan to source the necessary lithium-ion feedstock from battery manufacturing scrap and end-of-life cells from various sources, including electric vehicle battery suppliers interested in participating in the eco-network the two companies announced in 2021. LINICO intends to process the feedstock into high-quality black mass utilizing its proprietary process. The resulting black mass will be used as input feedstock for Aqua Metals' AquaRefining pilot cells intended to create high purity metals such as nickel, cobalt, and copper as well as other compounds.

In August 2021, we announced that we had established an Innovation Center focused on applying our proven technology to lithium-ion battery recycling research and development and prototype system activities. During the first half of 2022, we announced our ability to recover copper, lithium hydroxide, nickel, and cobalt from lithium-ion battery black mass at the Company's Innovation Center. Our strategic decision to apply our proven clean, closed-loop hydrometallurgical and electro-chemical recycling experience to lithium-ion battery recycling is designed to meet the growing demand for critical metals driven by the global transition to electric vehicles, growth in Internet data centers, and alternative energy applications including solar, wind, and grid-scale storage. In July 2022, we signed a letter of intent with Dragonfly Energy Corporation, a leader in lithium-ion deep cycle batteries, pursuant to which Dragonfly would purchase commercial quantities of lithium hydroxide for ongoing development of solid-state lithium-ion battery technologies and future manufacturing activities. The Company is on schedule to have the Innovation Center's lithium-ion recycling pilot plant to be fully operational in the fourth quarter of 2022.

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, 2021, and the notes thereto, which are included in the Company's Annual Report on Form 10-K for the year ended December 31, 2021, as filed with the Securities and Exchange Commission, or the SEC, on February 24, 2022. There have been no material changes in the Company's significant accounting policies during the three and nine months ended September 30, 2022.

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 Accounting Standards Updates ("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 September 30, 2022, the condensed consolidated statements of operations for the three and nine months ended September 30, 2022 and September 30, 2021, the condensed consolidated statements of stockholders' equity for the three and nine months ended September 30, 2022 and September 30, 2021 and the condensed consolidated statements of cash flows for the nine months ended September 30, 2022 and September 30, 2021, as applicable, have been made. The condensed consolidated balance sheet as of December 31, 2021 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 the Company's audited consolidated financial statements for the period ended December 31, 2021, which are included on Form 10-K filed with the Securities and Exchange Commission on February 24, 2022.

The results of operations for the three and nine months ended September 30, 2022 are not necessarily indicative of results that may be expected for the year ending December 31, 2022.

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, valuation allowances for deferred tax assets, 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 anti-dilutive due to a net loss in the periods presented and, therefore, were excluded from the dilutive weighted average securities computation for the three and nine months ended September 30, as indicated below:

	Three Months Ended September 30,		Nine Months Ended September 30,	
Excluded potentially dilutive weighted average securities (1):	2022	2021	2022	2021
Options to purchase common stock	1,009,230	1,038,439	1,018,900	1,115,380
Unvested restricted stock units	3,221,803	3,772,069	3,921,702	4,543,145
Financing warrants to purchase common stock	6,372	6,372	6,372	6,372
Total potential dilutive weighted average securities	4,237,405	4,816,880	4,946,974	5,664,897

(1) Securities are presented on a weighted average outstanding calculation as required if the securities were dilutive
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Segment and geographic information

Our chief operating decision maker (“CODM”) is the Chief Executive Officer. 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 CODM in deciding how to allocate resources and in assessing performance. The CODM views its operations and manages its business in one operating segment, and the Company operates in only one geographic segment.

Concentration of credit risk

The Company did not generate revenue other than nominal revenue from the sale of inventory during the three and nine months ended September 30, 2022 or the three and nine months ended September 30, 2021. The accounts receivable balance on the Company's condensed consolidated balance sheets as of September 30, 2022 and December 31, 2021 consisted of amounts due from the return or sale of inventory and proceeds from assets held for sale.

Recent accounting pronouncements

There were no recent accounting pronouncements or changes in accounting pronouncements during the nine months ended September 30, 2022 that are of significance or potential significance to the Company.

Insurance Proceeds

On November 29, 2019, there was a fire in the AquaRefining area of the TRIC facility. As of December 31, 2021, the Company had received a total of $30.25 million in insurance payments as a result of the fire damage. The Company does not expect any additional insurance payments related to this matter.

3. Revenue Recognition

The Company has historically generated 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.

The Company was not in commercial production during the three and nine months ended September 30, 2022 or during the three and nine months ended September 30, 2021. Historically, Company products transferred to customers at a single point in time accounted for 100% of its revenue.

4. Lease Receivable

The Company has entered into an Industrial Lease Agreement with LINICO Corporation, a Nevada corporation, or ("LINICO"), dated February 15, 2021 pursuant to which the Company has leased to LINICO its 136,750 square foot recycling facility at TRIC. The lease commenced April 1, 2021 and expires on March 31, 2023. During the lease term, LINICO has the option to purchase the land and facilities at a purchase price of $14.25 million if the option is exercised and the sale is completed by October 1, 2022 and $15.25 million if the option is exercised and the sale is completed after October 1, 2022 and prior to March 31, 2023. The purchase option is subject to LINICO’s payment of a nonrefundable deposit of $1.25 million, which was paid on October 15, 2021, and a second nonrefundable deposit of $2.0 million by November 1, 2022, both of which will be applied towards the purchase price. LINICO did not exercise the option to purchase the land and facilities at a purchase price of $14.25 million on October 1, 2022. The lease agreement is a triple-net lease pursuant to which LINICO is responsible for all fixed costs, including maintenance, utilities, insurance, and property taxes. The lease agreement provides for LINICO’s monthly lease payments starting at $68,000 per month and increasing to $100,640 in the last six months of the lease.

With respect to the portion of the facility that was damaged in the November 2019 fire, consisting of approximately 30,000 square feet, the Company was obligated to complete the clean-up of the damaged area, at the Company's expense and repair all damage to the damaged area, at the Company's expense. Both the clean-up and the repair of the building has been completed. With regard to the equipment on-site at TRIC, the Company has granted LINICO the right of first offer to purchase any equipment the Company offers for sale. The lease agreement contains customary representations, warranties and indemnities on the part of both parties.

The Company accounted for the Industrial Lease and Option to Purchase Agreement as a sales-type lease. As a component of the accounting for the agreement, the Company recognized the estimated fair market value of the land and plant of $17.0 million as a lease receivable, which is reflected on the Company's condensed consolidated balance sheets. The implied interest rate of 0.5% was utilized for the amortization of the scheduled building lease/purchase payments outlined in the agreement. The Company applies the monthly payments received as a reduction to lease receivable and interest income. The interest income recognized from the agreement is included in "Interest and other income" on the Company's condensed consolidated statements of operations. For the nine months ended September 30, 2022, the Company recognized a reduction in the lease receivable balance of approximately $636,000 and recorded $57,000 of interest income related to this agreement.

5. Inventory

Inventory consisted of the following (in thousands):

	September 30, 2022	December 31, 2021
Finished goods	$ 28	$ 28
Work in process	—	9
Raw materials	—	86
Total inventory	$ 28	$ 123

6. Assets Held for Sale

Assets are classified as held for sale when, among other factors, they are identified and marketed for sale in their present condition, management is committed to their disposal, and the sale of the asset is probable within one year. Management believes these lead recycling assets are no longer necessary for the Company's future operating plans. As of September 30, 2022, Aqua Metals had assets with a book value of $1.1 million classified as assets held for sale.

7. Property and Equipment, net

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

Asset Class	Useful Life (Years)	September 30, 2022	December 31, 2021
Operational equipment	3 - 10	$ 1,446	$ 1,539
Lab equipment	5	730	530
Computer equipment	3	6	8
Office furniture and equipment	3	90	91
Building	39	80	—
Equipment under construction		3,683	1,328
		6,035	3,496
Less: accumulated depreciation		(1,406)	(1,129)
Total property and equipment, net		$ 4,629	$ 2,367

Property and equipment depreciation expense was $0.2 million and $0.4 million for the three and nine months ended September 30, 2022 and $58.6 thousand and $0.5 million for the three and nine months ended September 30, 2021, respectively. Equipment under construction is comprised of various components being manufactured or installed by the Company.

8. Investments

On February 15, 2021, the Company entered into a Series A Preferred Stock Purchase Agreement with LINICO Corporation, a Nevada Corporation, or ("LINICO"), that provided for the Company's issuance of 375,000 shares ("Aqua Shares") of the Company's common stock in consideration of LINICO's issuance of 1,500 shares of its Series A Preferred Stock, at a stated aggregate value of $1.5 million, along with a three-year warrant ("Series A Warrant") to purchase an additional 500 shares of LINICO Series A Preferred Stock at an exercise price of $1,000 per share. During the three months ended March 31, 2022, the Company exercised the warrant for all 500 LINICO Series A Preferred shares. Following the exercise, the Company held a total of 2,000 shares of the Series A Preferred Stock representing approximately 12% of LINICO common stock on a fully diluted basis.

The Company accounted for the LINICO investment under ASC 321, Investments-Equity Securities, using the measurement alternative of recording at cost as the investment in LINICO doesn't have a readily determinable fair value.

The LINICO Series A Preferred Stock is senior to all other capital stock of LINICO with regard to dividends and distributions upon liquidation, dissolution and sale of the company. Each share of LINICO Series A Preferred Stock is entitled to one vote per share and votes with the common stock on all matters, subject to certain protective provisions that require the approval of the holders of the Series A Preferred Stock voting as a class. The Series A Preferred Stock accrues a cumulative dividend of 8% per annum on the original stated value of $1,000 per share, and all accrued and unpaid dividends on the Series A Preferred Stock must be paid in full prior to the payment of any dividends on any other shares of LINICO capital stock. In the event of any liquidation or dissolution of LINICO, which would include a sale of LINICO, the holders of the Series A Preferred Stock shall receive the return of their stated value of $1,000 per share plus all accrued and unpaid dividends prior to any distribution to the holders of any other capital stock of LINICO, following which the holders of the Series A Preferred Stock shall participate in the distribution of any remaining assets with the holders of the junior stock on an as-converted basis. The Series A Preferred Stock is convertible into shares of LINICO common stock at the Company's option and is automatically converted into LINICO common stock upon the election of the holders of a majority of the LINICO Series A Preferred Stock or upon a qualifying IPO of LINICO common stock. The Series A Preferred Stockholders are also provided with preemptive rights allowing them the right to purchase their proportional share of certain future LINICO equity issuances.

The Series A Preferred Stock Purchase Agreement includes customary representations, warranties, and covenants by LINICO and the Company.

As LINICO's sale of the 375,000 of Aqua Shares resulted in net proceeds to LINICO that were less than $1,500,000, the Company was required to pay LINICO the difference of $232,000 in cash.

In connection with the investment transactions, the Company also entered into an Investors Rights Agreement and a Voting Agreement, each dated February 15, 2021, pursuant to which LINICO granted the Company customary demand and piggyback registration rights, information rights and the right to nominate one person to the LINICO board of directors as long as the Company is the owner of at least 10% of the LINICO common stock on a fully-diluted basis.

Comstock Inc., a Nevada corporation (NYSE-MKT: LODE), is the beneficial owner of approximately 88% of the common shares of LINICO. The Company's Chief Financial Officer, Judd Merrill, is a member of the board of directors of Comstock Inc.

9. Accrued Expenses

Accrued expenses consist of the following (in thousands):

	September 30, 2022	December 31, 2021
Property and equipment related	$ 789	$ 2,242
Class action settlement	500	500
Payroll related	1,116	180
Professional	109	56
Other	349	27
	$ 2,863	$ 3,005

10. Leases

As of September 30, 2022, the Company maintained two finance leases for equipment and two operating leases for real estate. The operating leases have current terms of 36 and 37 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 condensed consolidated balance sheets 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 condensed consolidated balance sheets. The Company recognized sublease income of approximately $0 and $85,000 for the three and nine months ended September 30, 2022, respectively. The sublease agreement ended during the first quarter of 2022. The Company recognized sublease income of approximately $127,000 and $382,000 for the three and nine months ended September 30, 2021, respectively.

Based on the present value of the lease payments for the remaining lease term of the Company's existing leases, as of September 30, 2022, total right-of-use assets were approximately $0.52 million and operating lease liabilities were approximately $0.53 million. As of September 30, 2021, the Company's total right-of-use assets were approximately $0.68 million and operating lease liabilities were approximately $0.75 million.

The Company currently maintains two finance leases for equipment. In November 2021, the Company entered into a finance lease for a modular laboratory which expires in October of 2024. The second finance lease is for warehouse equipment that expires in September of 2023.

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Cash paid for operating lease liabilities	$ 65	$ 167	$ 279	$ 494
Operating lease cost	$ 65	$ 155	$ 272	$ 444
Cash paid for finance lease liabilities	$ 15	$ 2	$ 46	$ 5
Interest expense	$ 2	$ —	$ 7	$ 1

	September 30, 2022
Weighted-average remaining lease term (Years) - operating leases	2.1
Weighted-average discount rate - operating leases	6.16%
Weighted-average remaining lease term (Years) - finance leases	1.5
Weighted-average discount rate - finance leases	7.51%

Future maturities of lease liabilities as of September 30, 2022 are as follows (in thousands):

Due in 12-month period ended September 30,

	Operating Leases	Finance Leases
2022	$ 264	$ 70
2023	$ 270	$ 54
2024	$ 34	$ 4
Less imputed interest	$ (35)	$ (9)
Total lease liabilities	$ 533	$ 119
Current lease liabilities	$ 239	$ 63
Non-current lease liabilities	$ 294	$ 56
	$ 533	$ 119

11. Notes Payable

On September 30, 2022, Aqua Metals Reno, Inc., our wholly-owned subsidiary, entered into a Loan Agreement with Summit Investment Services, LLC, a Nevada limited liability company as to an undivided 90.8334% interest, Darren McBride, Trustee of the Arduino 1 Trust, U/A dated April 25, 2022, as to an undivided 8.3333% interest and Jason Yelowitz, Trustee of the Jason Yelowitz 2006 Trust, Dated March 31, 2006 as to an undivided .8333% interest (collectively, the "Lenders"), pursuant to which the Lenders provided us with a loan in the amount of $6 million. The loan accrues interest at a fixed annual rate of 8.50%. Interest-only payments are due monthly for the first twenty-four months and the principal and all unpaid accrued interest is due on September 29, 2024. We have the right to prepay the loan at any time, provided that we must pay guaranteed minimum interest of $255,000 (6-months of interest). The Loan Agreement includes representations, warranties, and affirmative and negative covenants that are customary of institutional loan agreements. The loan is collateralized by a first priority lien interest on our land and recycling facility at TRIC that is expected to sell before March 31, 2023 to LINICO as disclosed in Note 4 of the financial statements. Upon the completion of the sale, the commitments and obligations per our loan agreement with the Lenders will terminate, and all amounts then outstanding will become payable. The costs associated with obtaining the loan were recorded as a reduction to the carrying amount of the note and are being amortized over the life of the loan.

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

	September 30, 2022	December 31, 2021
Notes payable, current portion		
The Lenders, net of issuance costs	$ 5,886	$ —
Total notes payable, current portion	$ 5,886	$ —

12. Stockholders' Equity

Shares issued

During the nine months ended September 30, 2022, the Company issued 2,148,909 shares of common stock upon vesting of Restricted Stock Units ("RSUs") granted by the Company to management and employees.

During the nine months ended September 30, 2022, the Company issued 79,691 shares of common stock upon vesting of RSUs granted to Board members.

During the nine months ended September 30, 2022, the Company issued 5,406,914 shares of common stock pursuant to the At The Market Issuance Sales Agreement for net proceeds of $5.6 million.

During the nine months ended September 30, 2022, the Company issued 13,389 shares of common stock to a former Board member to fulfill obligations related to consulting services.

Stock-based compensation

The stock-based compensation expense was allocated as follows:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Cost of product sales	$ 27	$ 14	$ 75	$ 61
Research and development cost	—	11	36	64
General and administrative expense	571	375	1,626	1,573
Total	$ 598	$ 400	$ 1,737	$ 1,698

There were no options issued during the three and nine months ended September 30, 2022 or the three and nine months ended September 30, 2021.

Restricted stock units

In January 2022, the Company granted 44,780 RSUs, all of which were subject to vesting, with a grant fair value of $50,000 to employees. The shares vest in three equal installments over a three-year period.

In February 2022, the Company granted 47,933 RSUs, all of which were subject to vesting, with a grant fair value of $50,000 to employees. The shares vest in three equal installments over a three-year period.

In April 2022, the Company granted 9,615 RSUs, all of which were subject to vesting, with a grant fair value of $10,000 to employees. The shares vest in three equal installments over a three-year period.

In May 2022, the Company granted 182,293 RSUs, all of which were subject to vesting, with a grant fair value of $175,000 to Board Members. The shares vest in four equal installments over a twelve-month period.

In June 2022, the Company granted 12,121 RSUs, all of which were subject to vesting, with a grant fair value of $10,000 to employees. The shares vest in three equal installments over a three-year period.

In July 2022, the Company granted 143,708 RSUs, all of which were subject to vesting, with a grant fair value of $120,000 to employees. The shares vest in three equal installments over a three-year period.

In August 2022, the Company granted 10,537 RSUs, all of which were subject to vesting, with a grant fair value of $10,000 to employees. The shares vest in three equal installments over a three-year period.

13. Commitments and Contingencies

Legal proceedings

See Item 1. Legal Proceedings

14. Subsequent Events

On October 25, 2022, the Company received the second nonrefundable deposit of $2.0 million from LINICO. The sale of the land and facilities at a sale price of $15.25 million is expected to close prior to March 31, 2023. Both nonrefundable deposits in the total of $3.25 million will be applied towards the sale price.

The Company has evaluated subsequent events through the date which the condensed consolidated financial statements were available to be issued. Based upon this review, the Company did not identify any other subsequent events that would have required adjustment or disclosure.

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, 2021 filed with the SEC on February 24, 2022, 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 applying its commercialized clean, water-based recycling technology principles to develop the clean and cost-efficient recycling solutions for both lead and lithium-ion batteries or "Li". We offer technology licensing and related services to recyclers across the globe for lead recycling and expect to provide recycling services for Li batteries. Our recycling process is a patented hydrometallurgical technology that is a novel, proprietary and patented process we developed and named AquaRefining. AquaRefining is a room temperature, water and organic acid-based process that greatly reduces environmental emissions. The modular Aqualyzers cleanly generate ultra-pure metal one atom at a time, closing the sustainability loop for the rapidly growing energy storage economy. Our process was originally designed for lead recycling. Lead is a globally traded commodity with a worldwide market value in excess of $20 billion. 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 are also applying our commercialized clean, water-based recycling technology principles with the goal of developing the cleanest and most cost-efficient recycling solution for lithium-ion batteries. We believe our process has the potential to produce higher quality products at a lower operating cost without the damaging effects of furnaces and greenhouse emissions. Aqua Metals estimates the total addressable market for lithium-ion battery recycling will be approximately $9 billion by 2025 and grow to exceed lead battery recycling by the end of the decade. Unlike the mature lead recycling market, the deployed lithium-ion battery recycling infrastructure to serve market growth does not exist today.

We were formed as a Delaware corporation on June 20, 2014 for the purpose of engaging in the business of recycling metals through a novel, proprietary and patent-pending process that we developed and named "AquaRefining". Since 2015, Aqua Metals has developed breakthrough metal recycling technologies that utilize a clean, closed-loop process that can produce ultra-high purity metal. Our innovative approach, AquaRefining, delivers raw materials back into the manufacturing supply chain while reducing emissions and toxic byproducts and creating a safer work environment. The patented AquaRefining modular systems have already demonstrated how they can reduce environmental impact and scale lead-acid battery recycling capacity.

We completed the development of our first LAB recycling facility at the Tahoe Reno Industrial Center in McCarran, Nevada ("TRIC") and commenced production of battery breaking. During 2020 and 2021, we successfully iterated our lead AquaRefining Aqualyzer through a 1.25 and a 1.5 version which now has triple the throughput of the 2019 iteration that produced over 35,000 industry standard ingots in commercial production. During the third and fourth quarters of 2022, we are deploying and operating a Phase 1 deployment of lead AquaRefining with our partner ACME Metal in Taiwan. This showcase installation will inform management of the interest in ACME to move forward with larger deployments by the first quarter of 2023 as well as other potential licensees and partners in the same timeframe.

In February 2021, we announced our entry into the Li recycling market through a key provisional patent we filed and a strategic investment in LINICO Corporation of $2 million paid in Aqua Metals shares and cash for an approximate 10% ownership in LINICO as part of our strategy to strengthen growth.

In August 2021, we announced that we had established our Innovation Center in Tahoe-Reno Industrial Center focused on applying our proven technology to lithium-ion battery recycling research and development and prototype system activities. During the first half of 2022, we announced our ability to recover copper, lithium hydroxide, nickel and cobalt from lithium-ion battery black mass at the Company's Innovation Center. Our strategic decision to apply our proven clean, closed-loop hydrometallurgical and electro-chemical recycling experience to lithium-ion battery recycling is designed to meet the growing demand for critical metals driven by the global transition to electric vehicles, growth in Internet data centers, and alternative energy applications including solar, wind, and grid-scale storage.

Plan of Operations

Our business strategy is based on the pursuit of licensing opportunities within the lead acid battery recycling marketplace and to meet the growing demand for critical metals driven by innovations in automobile batteries, growth in Internet data centers, and alternative energy applications, including solar, wind, and grid-scale storage, by applying AquaRefining methodologies to the lithium-ion battery market.

We are in the process of demonstrating that Li AquaRefining, which is fundamentally non-polluting, can create the highest quality and highest yields of recovered minerals from Lithium-ion batteries with the lower waste streams and lower costs than existing alternatives. We have already demonstrated our ability to recover key valuable minerals in Lithium-ion batteries, such as lithium hydroxide, copper, nickel, cobalt, and other compounds in 2022. Our goal is to process results with nickel, cobalt, and copper in a pure metal form that can be sold to the general metals and superalloy markets and can be made into battery precursor compound materials with known processes already used in the mining industry. We are installing and intends to commission and operate the first Li AquaRefining pilot plant producing initial quantities by year end 2022, scaling towards a commercial demonstration quantity of up to 80 tonnes per month by year end 2023. The location for the demonstration quantity is currently the Innovation Center but we are also considering alternative locations in the Tahoe-Reno area to expand from demonstration commercial quantities to ~10,000 tonnes / year or more of production starting in 2024.

Our focus is providing equipment and licensing of our lead acid battery recycling technologies in an enabler model which allows us to work with anyone in the industry globally and address the entire marketplace. We are also exploring joint ventures and potentially operating a recycling facility again in the future, particularly as our Li AquaRefining matures through 2022 and into 2023. This flexibility in our business model allows us to preserve cash in the shorter term and maximize profit potential in the longer term. We believe that Aqua Metals is in a position to become one of the few critical minerals recovery players for which our environmental and economic value proposition should generate both great commercial wins and potentially government grants to accelerate our credibility and progress.

Results of Operations

We have not engaged in commercial operations since 2019, other than the sale of inventory, and since that time our operations have been devoted to improvements to our AquaRefining processes and developing our Li AquaRefining battery recycling technology. We currently have budgeted to spend approximately $3 million on research and development for 2022, which includes the plan to build out the initial Li battery recycling pilot at the Innovation Center. We have spent $1.6 million of the research and development budget during the nine months ended September 30, 2022. We did not incur revenue during the three and nine months ended September 30, 2022 and 2021 other than nominal revenue generated during the second quarter of 2022 from the sale of inventory. The following table summarizes our results of operations with respect to the items set forth below for the three and nine months ended September 30, 2022 and 2021 together with the dollar and percentage changes in those items (in thousands).

	Three Months Ended September 30,				Nine Months Ended September 30,			
	2022	2021	Favorable (Unfavorable)	% Change	2022	2021	Favorable (Unfavorable)	% Change
Product sales	$ —	$ —	$ —	0.0%	$ 4	$ —	$ 4	0.0%
Cost of product sales	$ 833	$ 1,670	$ 837	(50.1)%	3,026	5,417	2,391	(44.1)%
Research and development cost	490	273	(217)	79.5%	1,561	738	(823)	111.5%
General and administrative expense	2,611	2,681	70	(2.6)%	7,615	7,109	(506)	7.1%
Total operating expense	$ 3,934	$ 4,624	$ 690	(14.9)%	$ 12,202	$ 13,264	$ 1,062	(8.0)%

Historical product sales prior to the reported periods have consisted of high-purity lead from our AquaRefining process. Other than sales from inventory, we do not expect to generate revenue from operations until such time as we enter into a commercial license for our lead acid AquaRefining technology or revenue from Li battery recycling.

Cost of product sales includes raw materials, supplies and related costs, salaries and benefits, consulting and outside services costs, inventory adjustments, depreciation and amortization costs and insurance, travel and overhead costs. Cost of product sales decreased approximately 50% and 44% for the three and nine months ended September 30, 2022, respectively, as compared to the three and nine months ended September 30, 2021. The decrease in cost of product sales was primarily due to the decrease in plant clean-up costs, in preparation for the lease of the facility that occurred in 2021. Such expenditures were reduced during the nine months ended September 30, 2022.

Research and development cost includes expenditures related to the improvement of the AquaRefining technology related to our lead recycling process and initial development of our lithium-ion battery recycling process. During the three months ended September 30, 2022, research and development cost increased $217,000, or approximately 80%, over the comparable period in 2021. For the nine months ended September 30, 2022, research and developments costs increased $823,000, or approximately 112% compared to the nine months ended September 30, 2021. These increases were driven by efforts to advance our proprietary AquaRefining technology and the Li battery recycling pilot at the Innovation Center.

General and administrative expense decreased approximately 3% for the three months ended September 30, 2022, but increased approximately 7% for the nine months ended September 30, 2022, compared to the three and nine months ended September 30, 2021. The increase in general and administrative expenses includes changes in payroll and payroll related expenses, in addition to an increase in professional fees.

The following table summarizes our other income and interest expense for the three and nine months ended September 30, 2022 and 2021 together with the dollar and percentage changes in those items (in thousands).

	Three Months Ended September 30,				Nine Months Ended September 30,			
Other income and (expense)	2022	2021	Favorable (Unfavorable)	% Change	2022	2021	Favorable (Unfavorable)	% Change
Insurance proceeds net of related expenses	$ —	$ 4,344	$ (4,344)	(100.0)%	$ —	$ 4,792	$ (4,792)	(100.0)%
PPP loan forgiveness	—	—	—	0.0%	—	332	(332)	(100.0)%
Gain (loss) on disposal of property and equipment	5	(1,411)	1,416	(100.4)%	595	(5,665)	6,260	(110.5)%
Interest expense	(9)	(5)	(4)	80.0%	(22)	(15)	(7)	46.7%
Interest and other income	53	310	-257	(82.9)%	166	334	(168)	(50.3)%
Total other income (expense), net	$ 49	$ 3,238	$ (3,189)	(98.5)%	$ 739	$ (222)	$ 961	(432.9)%

Insurance proceeds net of related expenses resulted from collection and payment activity that began in 2020 following the November 2019 fire. The change from period to period is due to the timing of insurance payments and associated fire clean-up expenses. The Company does not expect any additional insurance payments related to this matter. Both of the Company's two PPP loans totaling $332,000 received in May 2020 have been forgiven.

We recognized a gain on disposal of property and equipment of approximately $5,000 and $595,000 during the three and nine months ended September 30, 2022 respectively. The gain on disposal of property and equipment resulted from the write-off of plant commitment accrued expenses. Plant clean-up and repair of fire damaged areas began in 2021 and were completed earlier in 2022.

The increase in interest expense for the three and nine months ended September 30, 2022 is due to the interest paid on finance leases.

We recognized approximately $53,000 and $166,000 in interest and other income during the three and nine months ended September 30, 2022 respectively, a decrease from $310,000 and $334,000 during the three and nine months ended September 30, 2021, respectively. The decrease in interest and other income is primarily due to the payments received for scrap material salvaged during the plant clean-up process.

Liquidity and Capital Resources

As of September 30, 2022, we had total assets of $35.0 million and working capital of $15.5 million.

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

	Nine Months Ended September 30,	
	2022	2021
Net cash used in operating activities	$ (9,308)	$ (3,753)
Net cash used in investing activities	$ (1,680)	$ (1,506)
Net cash provided by financing activities	$ 12,144	$ 10,426

Net cash used in operating activities

Net cash used in operating activities for the nine months ended September 30, 2022 and 2021 was $9.3 million and $3.8 million, respectively. Net cash used in operating activities during each of these periods consisted primarily of our net loss adjusted for non-cash items such as depreciation, amortization, stock-based compensation, and loss (gain) on the disposal of property and equipment, as well as net changes in working capital. Net cash used in operating activities for the nine months ended September 30, 2021 reflected $4.8 million in insurance proceeds collected.

Net cash used in investing activities

Net cash used in investing activities for the nine months ended September 30, 2022 was $1.7 million and consisted mainly of $2.3 million utilized towards the purchase of property and equipment, $1.4 million proceeds from the sale of equipment, $0.5 million utilized towards the warrant exercise and $0.3 million utilized towards the equipment deposits. Net cash used in investing activities for the nine months ended September 30, 2021 was $1.5 million and consisted mainly of $1.7 million for the purchase of property and equipment, $0.3 million proceeds from the sale of equipment and $0.2 million utilized toward the investment in LINICO.

Net cash provided by financing activities

Net cash provided by financing activities of $12.1 million for the nine months ended September 30, 2022 consisted of $5.6 million in net proceeds from the sale of Aqua Metals shares pursuant to the at-the-market offering, or ATM, $5.9 million in net proceeds from the loan secured with the Lenders and $0.6 million of proceeds from lease of building. Net cash provided by financing activities for the nine months ended September 30, 2021 was approximately $10.4 million, consisting of $9.3 million in net proceeds from the sale of Aqua Metals shares pursuant to the ATM and $0.7 million of proceeds from stock option exercises.

As of September 30, 2022, we had total cash of $9.3 million and working capital of $15.5 million. As of the date of this report, we believe that we may require additional capital in order to fund our current level of ongoing costs and our proposed business plan over the next 12 months. We intend to acquire the necessary capital though the possible sale of certain equipment and assets at TRIC and the collection of funds from the lease and potential sale of our plant. However, there can be no assurance that such funds will be available. If needed, we may seek funding through the sale of equity or debt financing, including the sale of our common shares through our current at-the-market offering. Funding that includes the sale of our equity may be dilutive. 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.

Critical Accounting Estimates

No material changes from what was reported in the 2021 Form 10-K.

Item 3. Quantitative and Qualitative Disclosures about Market Risk

Not applicable.

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 September 30, 2022.

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 September 30, 2022 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

None.

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 Relating to Our Business

We have experienced a fire at our TRIC facility which has caused significant damage and, as a result of the fire, we revised our plans for the commercialization of our AquaRefining technologies. However, there can be no assurance that such plans will be successful. On the evening of November 29, 2019, a fire occurred at our lead acid battery, or LAB, recycling facility at TRIC. The cause of ignition is likely related to on-site contractor work that was being performed on the day of the fire. The fire was substantially contained to the AquaRefining area of the plant, however the fire destroyed or impaired beyond recovery substantially all of the AquaRefining equipment, including all 16 AquaRefining modules, control wiring and other supporting infrastructure.

When we designed and developed TRIC, we did so at a time when our business model assumed that TRIC would be the first of many LAB recycling facilities owned and operated by us. Commencing in 2017, we began to shift our focus away from the development of additional Company-owned LAB recycling facilities and towards the licensing of our AquaRefining technology to partners engaged in LAB recycling. We continued to develop TRIC as a LAB recycling facility for purposes of demonstrating AquaRefining on a commercial scale. However, as a result of the fire and our high costs of capital, we decided that the cost of restoring TRIC to its pre-fire state would not be the best use of our available cash and that we may be able to achieve the benefits of operating 16 AquaRefining modules, namely the demonstration of the scalability of our AquaRefining technologies, through a less costly commercialization program. Commencing in early 2020, we began to focus on licensing opportunities within the $20+ billion lead battery recycling marketplace and in February 2021 we entered into a triple-net lease-to-buy agreement with respect to TRIC. We believe this path is far less capital intensive than a rebuild of TRIC to its pre-fire state and we believe this plan could be funded in part from cash on hand and asset disposition of the AquaRefinery. However, there can be no assurance that our revised business model will be successful or that we will acquire the additional capital sufficient to fund our revised business plan.

We have initiated the research and development of the application of our AquaRefining technology to the recycling and recovery of lithium-ion batteries, however there can be no assurance that our efforts will be successful. In September 2021, we announced the establishment of our Innovation Center, in McCarran, Nevada, focused on applying our AquaRefining technology to lithium-ion battery recycling research and development and prototype system activities. Earlier in 2021, we filed a provisional patent for recovering high-value metals from recycled lithium-ion batteries to complement the patents for AquaRefining. In 2022, we were able to extract metals at bench scale. Based on early phase testing, we believe we may be able to apply our AquaRefining methodology, used for plating ultra-high purity lead, to plating the metals found in lithium-ion batteries such as cobalt, nickel, and copper at a commercial scale. Lithium and manganese will be recovered in other forms. However, we have only recently begun to conduct research and development in the recycling of lithium-ion batteries, and there can be no assurance that our efforts will be successful or that we will be able to conduct the recycling and recovery of the high value metals from lithium-ion batteries on a commercial scale.

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 by licensing our lead technology to third parties, recycling lithium-ion batteries and entering into joint ventures and strategic relationships with parties involved in the manufacture and recycling of LABs and, subject to our successful research and development, lithium-ion batteries. In July 2021, we entered into an agreement with ACME Metal Enterprise Co., Ltd to deploy and potentially license our AquaRefining equipment at ACME's LAB recycling facility in Keelung, Taiwan. The agreement provides for a phased deployment of our AquaRefining technology at ACME's Taiwan facility, the joint development of processing AquaRefined briquettes into battery ready oxide material and potentially an exclusive license of our AquaRefining technology to ACME for all of Taiwan. Although we are currently seeking to negotiate agreements with others, as of the date of this report, we have not entered into any such licensing, joint venture or strategic alliance agreements, apart from our agreement with ACME, and there can be no assurance that we will be able to do so on terms that benefit us, if at all. Our ability to enter into licensing, joint ventures and strategic relationships with third parties will depend on our ability to demonstrate the technological and commercial advantages of our AquaRefining process, of which there can be no assurance. Also, even if we are able to enter into licensing, joint venture or strategic alliance agreements, there can be no assurance that we will be able to obtain the expected benefits of any such arrangements. 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.

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. From inception through September 30, 2022, we generated a total of $11.5 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 AquaRefined lead. To date, our operations have primarily consisted of the development and testing and limited operations 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 brought those LAB recycling operations online. As a result of the November 2019 fire at TRIC, we have suspended all plant-based revenue producing operations, entered into a lease-to-buy agreement with respect to TRIC and have shifted our business model to focus exclusively on the licensing of our AquaRefining technology to partners engaged in LAB recycling and, subject to our successful research and development, lithium-ion batteries. As of the date of this report, we are unable to estimate when we expect to commence any meaningful commercial or revenue producing operations from our licensing model. 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 have suspended operations at TRIC;
- our ability to demonstrate that our AquaRefining technology can be operated on a commercial scale;
- our ability to license our AquaRefining process and sell our AquaRefining equipment to ACME Metal Enterprise Co., Ltd and other recyclers of LABs; and
- our ability to successfully apply our AquaRefining technology at a commercial scale to the plating of high value metals found in lithium-ion batteries, including cobalt, nickel, and copper.

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 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 lead and lithium battery recycling operations may be widely used, our AquaRefining process is largely novel and, to date, has been demonstrated on a modest scale of operations. While we have shown that our proprietary technology can produce AquaRefined lead on a small scale, we have accomplished limited production of AquaRefined lead on a commercial scale and bench scale testing of our lithium battery recycling. Further, as we endeavored to implement AquaRefining, we continuously encountered unforeseen complications that delayed the ramping up of our AquaRefining technology. There can be no assurance that we will not encounter similar unforeseen complications as we pursue our business model.

We may 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 September 30, 2022, we had total cash of $9.3 million and working capital of $15.5 million. As of the date of this report, we believe that we may require additional capital in order to fund our current level of ongoing costs and our proposed business plan over the next 12 months. We intend to acquire the necessary capital though the possible sale of the plant. However, the sale of the plant may not be in amounts sufficient to fund the capital requirements or, if we are successful, that we will not require additional capital. If needed, we may seek funding through the sale of equity or debt financing, including the sale of our common shares through our current at-the-market offering. Funding that includes the sale of our equity may be dilutive. 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.

Our business may be adversely affected by the recent coronavirus outbreak. In December 2019, a novel strain of coronavirus was reported to have surfaced in Wuhan, China. In January 2020, this coronavirus spread to other countries, including the United States, and efforts to contain the spread of this coronavirus intensified. The outbreak and any preventative or protective actions that we or our partners and suppliers may take in respect of this coronavirus may result in a period of disruption to work in progress. Our partners' and suppliers' businesses could be disrupted, and our license negotiations for lead and our pilot operations for lithium batteries could be negatively affected. Any resulting financial impact cannot be reasonably estimated at this time but may materially affect our business and financial condition. The extent to which the coronavirus impacts our results will depend on future developments, which are highly uncertain and cannot be predicted, including new information which may emerge concerning the severity of the coronavirus and the actions to contain the coronavirus or treat its impact, among others.

Our business model is new and has not been proven by us or anyone else. We are engaged in the business of licensing of lead Aqua Refined technology and, subject to our successful research and development, recycling lithium-ion batteries through a novel 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 or lithium-ion batteries in commercial quantities other than by way of smelting. In addition, neither we nor anyone else has ever successfully built a production line that commercially recycles LABs without smelting. Further, there can be no assurance that either we or our licensees will be able to produce AquaRefined lead or high value metals from lithium-ion batteries 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 presents potential risks associated with the development of a business model that is untried and unproven.

Even if our licensees are successful in recycling lead or lithium-ion batteries using our processes, there can be no assurance that the AquaRefined lead or other recycled metals will meet the certification and purity requirements of our potential customers. A key component of our business plan is the production of 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 our licensees with a revenue premium over the market price of lead on the London Metal Exchange, or LME, and, more importantly, the ability to produce AquaRefined lead will be vital to confirming the efficacy and relevancy of our proprietary technology. Our licensees and their 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 significant commercial quantities and there can be no assurance that our licensees will be able to do so or, if our licensees are able to produce AquaRefined lead in significant commercial quantities, that such lead will continue to meet the required purity standards of their customers. Further, while we believe we may be able to apply our AquaRefining methodology to plating the metals found in lithium-ion batteries, such as cobalt, nickel, and copper, we have only recently begun to conduct research and development in the recycling of lithium-ion batteries, and there can be no assurance that our efforts will be successful or that we will be able to conduct the recycling and recovery of the high value metals from lithium-ion batteries on a commercial scale.

While we have been successful in producing AquaRefined lead in small volumes, there can be no assurance that either we or our licensees 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. Our commercial operations have primarily involved the production of lead compounds and plastics from recycled LABs, and more recently, 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 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. Further, we have not engaged in any commercial operations in the area of recycling of lithium-ion batteries. There can be no assurance that our licensees will be able to produce AquaRefined lead or high value metals from lithium-ion batteries in commercial quantities at a cost of production that will provide us and our proposed licensees with an adequate profit margin.

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, 10665907, 11028460, 10793957, 10689769, 10340561, 10316420, 11072864, and 11239507), Canada (2930945, 2968064, 3007101, and 2986022), China (105981212, 107849634, 107889511, 107923057, 107112606, 108603242, and 109183069), Europe (3072180, 3294916, 3221918, 3483305, and 3294929), Eurasia (32371, 35532, and 36722), South Africa (2016/04083, 2017/08454, 2017/08455, 2017/04123, and 2018/04384), South Korea (101739414, 101882932, 101926033, 102096976, 102274210, 102242697, and 102310653), Honduras (80-2019, and allowed HN/P/2018/001207), India (318321, 369304, and 364173), Indonesia (IDP000061176, IDP000066550, IDP000074882, and IDP000077702), Japan (6173595, 6805240, 6775006, 6592088, 6861773, and 6944453), Malaysia (MY-181071-A, MY-185652-A, and MY-188863-A), Mexico (357027, 387016, and 392072), OAPI (17808, 19078, 18736, and 20442), Ukraine (118037, 124142, 119580, 124145, and 124523), Vietnam (22588 and 32143), Australia (2014353227, 2017213449, 2016260407, 2016260408, 2015350562, 2016362502, and 2020292388), ARIPO (4995, 5559, and 5946), Peru (10588, 11113, and allowed 002421-2017/DIN), Chile (62.308, 61.519, and 65.265), and Brazil (11 2018 011217-8, 11 2016 011396-9, 11 2017 024433-0, 11 2017 024432-2, and allowed 11 2017 010505-5).

We also have further patent applications pending in the United States and numerous corresponding patent applications pending in 21 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.

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. Lead price per tonne was approximately $1,874 at the end of September 2022. 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 downturn 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 U.S. 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 and the operations of our licensees 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 and the facilities of our licensees will have to obtain environmental permits or approvals to expand, including those associated with air emissions, water discharges, and waste management and storage. We and our licensees may face opposition from local residents or public interest groups to the installation and operation of our respective facilities. In addition to permitting requirements, our operations and the operations of our licensees 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 and our licensees 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 and our licensees 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 time frame to correct the findings of noncompliance. We agreed with Nevada OSHA to correct all findings of noncompliance within the time frame proposed by the lead compliance expert in their report. The lead compliance expert has been engaged, has visited the facility at TRIC and has completed the written report. We have corrected all 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 and the businesses of our licensees to significant penalties (civil or criminal) and other sanctions that could adversely affect our business. In addition, in the event we are unable to operate and expand our AquaRefining process and operations as safe and environmentally responsible, we and our licensees may face opposition from local governments, residents or public interest groups to the installation and operation of our facilities.

The development of new AquaRefining technology by us or our partners or licensees, and the dissemination of our AquaRefining process will depend on our ability to acquire necessary permits and approvals, of which there can be no assurance. As noted above, our AquaRefining processes 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 any use of AquaRefining operations at our partner's facilities 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 expansion, 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, or 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 U.S., 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

The market price of our shares may be subject to fluctuation and volatility. You could lose all or part of your investment. The market price of our common stock is subject to wide fluctuations in response to various factors, some of which are beyond our control. Since April 1, 2020, the reported high and low sales prices of our common stock have ranged from $0.35 to $8.06 through September 30, 2022. The market price of our shares on the NASDAQ Capital Market may fluctuate as a result of a number of factors, some of which are beyond our control, including, but not limited to:

- actual or anticipated variations in our and our competitors' results of operations and financial condition;
- changes in earnings estimates or recommendations by securities analysts, if our shares are covered by analysts;
- development of technological innovations or new competitive products by others;
- regulatory developments and the decisions of regulatory authorities as to the approval or rejection of new or modified products;
- our sale or proposed sale, or the sale by our significant stockholders, of our shares or other securities in the future;
- changes in key personnel;
- success or failure of our research and development projects or those of our competitors;
- the trading volume of our shares; and
- general economic and market conditions and other factors, including factors unrelated to our operating performance.

These factors and any corresponding price fluctuations may materially and adversely affect the market price of our shares and result in substantial losses being incurred by our investors. In the past, following periods of market volatility, public company stockholders have often instituted securities class action litigation. If we were involved in securities litigation, it could impose a substantial cost upon us and divert the resources and attention of our management from our business.

We have received a notice of delisting or failure to satisfy a continued listing rule from the Nasdaq. On August 2, 2022, we received a notice of delisting from the Nasdaq Stock Market, LLC. The notice stated that we had fallen below compliance with respect to the continued listing standard set forth in Rule 5550(a)(2) of the Nasdaq Listing Rules because the closing bid price of our common stock over the previous 30 consecutive trading-day period had fallen below $1.00 per share.

Pursuant to the notice and Rule 5810(c)(3)(A) of the Nasdaq Listing Rules, we have 180 days from the date of the notice, or until January 30, 2023, to regain compliance with the minimum bid price requirement in Rule 5550(a)(2) by achieving a closing bid price for our common stock of at least $1.00 per share over a minimum of 10 consecutive business days. If we do not regain compliance with Rule 5550(a)(2) during the initial 180-day period, we may be eligible for additional time to regain compliance, subject to our compliance with the Nasdaq's continued listing requirement for market value of publicly held shares and all other initial listing standards for The Nasdaq Capital Market, with the exception of the bid price requirement, and our provision of certain undertakings to the Nasdaq. However, there can be no assurance that we will be afforded additional time to regain compliance with the minimum bid price requirement following the initial 180-day period. If we are unable to regain compliance with Nasdaq Listing Rule 5550(a)(2) in a timely manner, the Nasdaq will commence suspension and delisting procedures.

If securities or industry analysts do not continue to publish research or publish inaccurate or unfavorable research about our business, our stock price and trading volume could decline. The trading market for our common stock depends in part on the research and reports that securities or industry analysts publish about us or our business. If industry analysts cease coverage of us, the trading price for our common stock would be negatively affected. If one or more of the analysts who cover us downgrade our common stock or publish inaccurate or unfavorable research about our business, our common stock price would likely decline. If one or more of these analysts cease coverage of us or fail to publish reports on us regularly, demand for our common stock could decrease, which might cause our common stock price and trading volume to decline. In addition, independent industry analysts may provide reviews of our AquaRefining technology, as well as competitive technologies, and perception of our offerings in the marketplace may be significantly influenced by these reviews. We have no control over what these industry analysts report, and because industry analysts may influence current and potential customers, our brand could be harmed if they do not provide a positive review of our products and platform capabilities or view us as a market leader.

We may be at an increased risk of securities class action litigation. Historically, securities class action litigation has often been brought against a company following a decline in the market price of its securities. This risk is especially relevant for us because early-stage companies have experienced significant stock price volatility in recent years. If we were to be sued, it could result in substantial costs and a diversion of management's attention and resources, which could harm our business. In 2017, a securities class action lawsuit and shareholder derivative lawsuit were filed against us. In 2021, we were able to settle both actions through our issuance of $500,000 of our common shares and our adoption of limited corporate governance reforms, however we incurred significant legal costs in defending both actions and our management was required to devote significant time in managing the defense of the actions.

We maintain director and officer insurance that we regard as reasonably adequate to protect us from potential claims. 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, 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.

Future sales of substantial amounts of our common stock, or the possibility that such sales could occur, could adversely affect the market price of our common stock. We cannot predict the effect, if any, that future issuances or sales of our securities or the availability of our securities for future issuance or sale, will have on the market price of our common stock. Issuances or sales of substantial amounts of our securities, or the perception that such issuances or sales might occur, could negatively impact the market price of our common stock and the terms upon which we may obtain additional equity financing in the future.

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 pursue our business plan 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.

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 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 of our directors, officers or other employees.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

None.

Item 3. Defaults Upon Senior Securities

None.

Item 4. Mine Safety Disclosures

None.

Item 5. Other Information

None.

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	Third Amended and Restated Bylaws of the Registrant	Incorporated by reference from the Registrant's Current Report on Form 8-K filed on January 21. 2022.
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 10-Q filed on May 9, 2019
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	Inline XBRL Instance Document	Filed electronically herewith
101.SCH	Inline XBRL Taxonomy Extension Schema Document	Filed electronically herewith
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document	Filed electronically herewith
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document	Filed electronically herewith
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document	Filed electronically herewith
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document	Filed electronically herewith
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101).	

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: November 3, 2022	By:	/s/ *Stephen Cotton* Stephen Cotton, President, Chief Executive Officer and Director (Principal Executive Officer)
Date: November 3, 2022	By:	/s/ Judd Merrill Judd Merrill, Chief Financial Officer (Principal Financial Officer)

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: November 3, 2022

By: /s/ *Stephen Cotton*
Stephen Cotton, President and CEO
(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: November 3, 2022

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 September 30, 2022, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), we, Stephen Cotton, President and CEO, 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:	November 3, 2022
	Stephen Cotton		
Title:	President and CEO (Principal Executive Officer)		
By:	/s/ Judd Merrill	Dated:	November 3, 2022
	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.