

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

FORM S-1

REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

AQUA METALS, INC.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of
incorporation or organization)

3691

(Primary Standard Industrial Classification Code)

47-1169572

(I.R.S. Employer
Identification No.)

**5370 Kietzke Lane, Suite 201
Reno, Nevada 89511
(775) 446-4418**

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

**Stephen Cotton
Chief Executive Officer
5370 Kietzke Lane, Suite 201
Reno, Nevada 89511
(775) 446-4418**

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copy to:
**Daniel K. Donahue
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18565 Jamboree Road, Suite 500
Irvine, California 92612
(949) 732-6500**

Approximate date of commencement of proposed sale to the public: From time to time after this Registration Statement becomes effective.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box. ☒

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

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. See the definitions of “large accelerated filer,” “accelerated filer,” “smaller reporting company,” and “emerging growth company” in Rule 12b-2 of the Exchange Act.

| | | | |
|-------------------------|-------------------------------------|---------------------------|-------------------------------------|
| Large accelerated filer | <input type="checkbox"/> | Accelerated filer | <input type="checkbox"/> |
| Non-accelerated filer | <input checked="" type="checkbox"/> | Smaller Reporting Company | <input checked="" type="checkbox"/> |
| | | Emerging Growth Company | <input type="checkbox"/> |

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act. ☐

The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until this registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

The information in this preliminary prospectus is not complete and may be changed. The Selling Stockholder may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

PRELIMINARY PROSPECTUS

SUBJECT TO COMPLETION

DATED JUNE 4, 2025

AQUA METALS, INC.

2,000,000 Shares of Common Stock

This prospectus relates to the offer and sale from time to time of up to 2,000,000 shares of our common stock, par value \$0.001 per share (“common stock”), by Lincoln Park Capital Fund, LLC (“Lincoln Park” or the “Selling Stockholder”).

The shares included in this prospectus consist of shares of common stock that we have issued or that we may, in our discretion, elect to issue and sell to the Selling Stockholder, from time to time after the date of this prospectus and the date of the satisfaction of the conditions to the Selling Stockholder’s purchase obligations (the “Commencement Date”) as set forth in the common stock purchase agreement we entered into with Lincoln Park on May 15, 2025 (the “Purchase Agreement”). Pursuant to the Purchase Agreement, the Selling Stockholder has committed to purchase from us, at our direction, up to \$10,000,000 million of shares of our common stock, subject to the terms and conditions specified in the Purchase Agreement. The shares registered pursuant to this prospectus also include 227,175 shares of common stock that we issued to the Selling Stockholder upon the execution of the Purchase Agreement as consideration for its irrevocable commitment (the “Commitment Shares”) to purchase shares of our common stock under the Purchase Agreement, at our election in our sole discretion, from time to time after the date of this prospectus, upon the terms and subject to the satisfaction of the conditions set forth in the Purchase Agreement. See the section titled “The Lincoln Park Transaction” for a description of the Purchase Agreement and the section titled “Selling Stockholder” for additional information regarding the Selling Stockholder.

We are not selling any shares of common stock being offered by this prospectus and will not receive any of the proceeds from the sale of such shares by the Selling Stockholder. However, we may receive up to \$10,000,000 in aggregate gross proceeds from sales of our common stock to the Selling Stockholder that we may, in our discretion, elect to make, from time to time after the date of this prospectus, pursuant to the Purchase Agreement.

The Selling Stockholder may sell or otherwise dispose of the common stock described in this prospectus in different ways and at varying prices. See “Plan of Distribution” for more information about how the Selling Stockholder may sell or otherwise dispose of the common stock being registered pursuant to this prospectus. The Selling Stockholder is an “underwriter” within the meaning of Section 2(a)(11) of the Securities Act of 1933, as amended (the “Securities Act”).

We will pay the expenses of registering under the Securities Act the offer and sale of the common stock to which this prospectus relates by the Selling Stockholder, including legal and accounting fees. See “Plan of Distribution”.

Our common stock is listed on the Nasdaq Capital Market under the symbol “AQMS.” On May 30, 2025, the closing price of our common stock was \$0.79.

Investing in our securities involves a high degree of risk. These risks are described in the “Risk Factors” section on page 3 of this prospectus. You should also consider the risk factors described or referred to in any documents incorporated by reference in this prospectus, and in any applicable prospectus supplement to this prospectus, before investing in these securities.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of the securities to be issued under this prospectus or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is , 2025.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the U.S. Securities and Exchange Commission (“SEC”) under the Securities Act. Under this prospectus, the Selling Stockholder may, from time to time, sell shares of our common stock described in this prospectus in one or more transactions, as described herein. This prospectus provides you with a general description of the securities offered by the Selling Stockholder. Any prospectus supplement may also add, update or change information contained in this prospectus. Any statement that we make in this prospectus will be modified or superseded by any inconsistent statement made by us in a prospectus supplement.

For investors outside of the United States: Neither we nor the Selling Stockholder have done anything that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than in the United States. Persons outside of the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of our securities and the distribution of this prospectus outside of the United States.

The registration statement we filed with the SEC includes exhibits that provide more detail of the matters discussed in this prospectus. This prospectus contains summaries of certain provisions contained in some of the documents described herein, but reference is made to the actual documents for complete information. All of the summaries are qualified in their entirety by the actual documents. Copies of some of the documents referred to herein have been filed, will be filed or will be incorporated by reference as exhibits to the registration statement of which this prospectus is a part. You should read this prospectus and the related exhibits filed with the SEC and any prospectus supplement, together with additional information described under the headings “Where You Can Find More Information” and “Incorporation by Reference” before making your investment decision.

You should rely only on the information incorporated by reference or provided in this prospectus, any prospectus supplement and the registration statement. Neither we nor the Selling Stockholder has authorized anyone else to provide you with different or additional information other than that contained in or incorporated by reference in this prospectus. If anyone provides you with different or inconsistent information, you should not rely on it. Offers to sell, and solicitations of offers to buy, our common stock are being made only in jurisdictions where offers and sales are permitted. You should assume that the information in this prospectus and any prospectus supplement, or incorporated by reference, is accurate only as of the respective dates of those documents. Our business, financial condition, results of operations and prospects may have changed since those dates.

PROSPECTUS SUMMARY

This prospectus summary highlights selected information appearing elsewhere in this prospectus and in documents we file with the SEC that are incorporated by reference in this prospectus. Because it is a summary, it may not contain all of the information that may be important to you. To understand this offering fully, you should read this entire prospectus carefully, including the information incorporated by reference herein, the information set forth under the heading “Risk Factors” and our financial statements and the related notes thereto incorporated by reference in this prospectus.

Overview

Aqua Metals is seeking to reinvent metal recycling with its patented and patent-pending AquaRefining™ technologies. Aqua Metals is focused on developing cleaner and safer metals recycling through innovation. We believe Aqua Metals can expand the development of breakthrough technologies for sustainable metal recycling and deliver high-value critical minerals back into the manufacturing supply chain while reducing emissions and toxic byproducts and creating much safer work environments.

Aqua Metals has invested in breakthrough metals recycling methodologies that we believe are environmentally responsible, economically competitive, and will help retain critical strategic metals within the U.S. while enabling domestically produced, sustainably produced, recycled metals to enter the supply chain and lower sole reliance on unsafe and toxic mining operations. Since 2015, Aqua Metals has developed breakthrough metal recycling technologies that utilize a clean, closed-loop process that can produce ultra-high purity metals. AquaRefining is designed to deliver raw materials back into the manufacturing supply chain, and replaces the need for polluting furnaces and hazardous chemicals with electricity-powered electroplating to recover valuable metals and materials from spent batteries with higher purity, lower emissions, and minimal waste.

We believe Aqua Metals' regenerative electro-hydrometallurgical recycling method potentially offers a substantial improvement over traditional pyrometallurgical and hydrometallurgical recycling techniques, which produce much higher emissions, lower recovery rates, and significant landfill waste. We believe the AquaRefining process has the potential to vastly reduce the environmental impact of recycling lithium batteries as compared to other processes while providing a higher yield of high-purity metals essential for the burgeoning US battery manufacturing industry.

We are in the process of demonstrating that Li AquaRefining can create the highest quality and highest yields of recovered minerals from lithium-ion batteries, with lower waste streams and lower costs than alternatives. With the proven ability to recover valuable metals from lithium-ion batteries at our pilot facility in the TRIC, our goal is to demonstrate our ability to process commercial quantities of high-purity lithium hydroxide and/or carbonate, nickel, cobalt, manganese dioxide, and copper in pure forms that can be sold to the general metals and superalloy markets, and can be made into battery precursor compound materials with proven processes that are already used in the battery industry.

The Company is also exploring additional innovative applications of AquaRefining across metals recycling industries at our Innovation Center, including recycling emerging battery chemistries and opportunities to develop additional products for sale to customer specifications.

Purchase Agreement with the Selling Stockholder

On May 15, 2025, we entered into the Purchase Agreement with the Selling Stockholder, pursuant to which the Selling Stockholder has committed to purchase from us up to an aggregate of \$10.0 million of shares of common stock, subject to certain limitations and conditions, from time to time over the term of the Purchase Agreement. In connection with the Purchase Agreement, we also entered into a Registration Rights Agreement, dated May 15, 2025 (the “Registration Rights Agreement”), with the Selling Stockholder, pursuant to which we agreed to file with the SEC the registration statement of which this prospectus is a part to register for resale under the Securities Act the shares of our common stock that have and may be issued to the Selling Stockholder under the Purchase Agreement.

This prospectus covers the sale or other disposition by the Selling Stockholder of up to 2,000,000 shares of common stock, consisting of (i) 227,175 Commitment Shares and (ii) up to 1,772,825 shares of common stock that we may elect, in our sole discretion, to issue and sell to the Selling Stockholder from time to time from and after the Commencement Date (as defined below) under the Purchase Agreement.

We do not have the right to commence any sales of our common stock to the Selling Stockholder under the Purchase Agreement until certain conditions set forth in the Purchase Agreement, all of which are outside of the Selling Stockholder's control, have been satisfied, including that the SEC has declared effective the registration statement of which this prospectus is a part (the "Commencement Date"). Thereafter, we may, from time to time and at our sole discretion for a period that ends on the 24-month anniversary of the Commencement Date (the "Maturity Date"), on any business day that we select on which the closing sale price of our common stock equals or exceeds \$0.25 per share (subject to adjustment as set forth in the Purchase Agreement), direct the Selling Stockholder to purchase up to 20,000 shares of our common stock, which amount may be increased depending on the market price of our common stock at the time of sale, subject to a maximum commitment of \$500,000 per purchase (each such purchase, a "Regular Purchase"). The maximum number of shares the Company may sell to the Selling Stockholder in a Regular Purchase may be increased by certain amounts to up to 80,000 shares, with the applicable maximum share limit determined by whether the closing sale price per share of common stock as reported on The Nasdaq Capital Market on the applicable purchase date for such Regular Purchase equals or exceeds certain minimum price thresholds set forth in the Purchase Agreement. In addition, the Selling Stockholder has committed to purchase other "accelerated amounts" or "additional accelerated amounts" under certain circumstances, as described in more detail in "The Lincoln Park Transaction." The purchase price of the shares of our common stock that may be sold to the Selling Stockholder in Regular Purchases under the Purchase Agreement will be based on the market price of our common stock at or preceding the time of sale as computed under the Purchase Agreement. The purchase price per share will be equitably adjusted as provided in the Purchase Agreement for any reorganization, recapitalization, non-cash dividend, stock split, or other similar transaction as set forth in the Purchase Agreement.

We will control the timing and amount of any sales of our common stock to the Selling Stockholder under the Purchase Agreement. Lincoln Park has no right to require us to sell any shares of common stock to Lincoln Park under the Purchase Agreement, but Lincoln Park is obligated to make purchases of common stock as we direct, upon the terms and subject to the satisfaction of the conditions set forth in the Purchase Agreement. Actual sales of shares of common stock by us to Lincoln Park under the Purchase Agreement will depend on a variety of factors to be determined by us from time to time, including, among others, market conditions, the trading price of the common stock and determinations by the Company as to the appropriate sources of funding for the Company and its operations. Following the satisfaction of conditions for the commencement of sales under the Purchase Agreement, we may at any time in our sole discretion terminate the Purchase Agreement without fee, penalty or cost upon one business day's notice.

There are no restrictions on future financings, rights of first refusal, participation rights, penalties or liquidated damages in the Purchase Agreement or the Registration Rights Agreement, other than a prohibition (subject to certain exceptions set forth in the Purchase Agreement) on our entering into any "equity line of credit" or "at-the-market offering" or other similar offering, until the earlier of (i) the 180th day following the effective date of any termination of the Purchase Agreement in accordance with its terms and (ii) the later of (A) the 24-month anniversary of the date of the Purchase Agreement and (B) the Maturity Date. For additional information see "The Lincoln Park Transaction".

Issuances of our common stock to Lincoln Park under the Purchase Agreement will not affect the rights or privileges of our existing stockholders, except that the economic and voting interests of each of our existing stockholders will be diluted as a result of any such issuance. Although the number of shares of our common stock that our existing stockholders own will not decrease, the shares of our common stock owned by our existing stockholders will represent a smaller percentage of the total outstanding shares of our common stock after any such issuance of shares of our common stock to Lincoln Park under the Purchase Agreement.

Corporate Information

Our principal executive offices are located at 5370 Kietzke Lane, Suite 201, Reno, Nevada 89511, and our telephone number is (775) 446-4418. Our website is www.aquametals.com. Information contained in, or accessible through, our website does not constitute part of this prospectus supplement and is not incorporated by reference in this prospectus supplement.

THE OFFERING

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| Common Stock Offered by the Selling Stockholder | <p>Up to 2,000,000 shares of our common stock, consisting of:</p> <ul style="list-style-type: none">• 227,175 Commitment Shares that we issued to Lincoln Park as consideration for its commitment to purchase shares of our common stock at our direction under the Purchase Agreement (and for which we will not receive any cash consideration); and• Up to 1,772,825 shares of our common stock we may issue and sell to Lincoln Park from time to time, at our sole discretion, during the 24-month period commencing on the Commencement Date in accordance with the Purchase Agreement. |
| Selling Stockholder | Lincoln Park Capital Fund, LLC. See “Selling Stockholder” on page 16 of this prospectus. |
| Shares of Common Stock Outstanding Prior to This Offering | 9,673,280 shares of common stock. (which includes the 227,175 Commitment Shares we issued to Lincoln Park on May 15, 2025 in consideration of Lincoln Park’s obligation to purchase shares of our common stock at our direction under the Purchase Agreement) |
| Shares of Common Stock Outstanding After This Offering | 11,446,105 shares of common stock, assuming the sale of a total of 1,772,825 shares of common stock to the Selling Stockholder under the Purchase Agreement. The actual number of shares outstanding after this offering will vary depending upon the actual number of shares we issue and sell to the Selling Stockholder under the Purchase Agreement after the date of this prospectus. |
| Use of Proceeds | We will not receive any of the proceeds from the resale of the shares of common stock by the Selling Stockholder. We may receive up to \$10.0 million of aggregate gross proceeds under the Purchase Agreement from any sales of common stock we make to the Selling Stockholder pursuant to the Purchase Agreement, assuming that we sell the full amount of our common stock that we have the right, but not the obligation, to sell to the Selling Stockholder under the Purchase Agreement. Any proceeds that we receive from sales of shares of our common stock to the Selling Stockholder under the Purchase Agreement will be used for working capital and general corporate purposes. See “Use of Proceeds.” |
| Market for Our Shares of Common Stock | Our common stock is listed on the Nasdaq Capital Market under the symbol “AQMS.” |
| Risk Factors | Any investment in our common stock offered hereby is speculative and involves a high degree of risk. You should carefully consider the information set forth under “Risk Factors”, commencing on page 3 of this prospectus, as well as all other information contained and incorporated by reference in this prospectus. |

The number of shares of common stock to be outstanding is based on 8,942,752 shares of common stock outstanding as of April 30, 2025 (which includes the 128,465 Commitment Shares) and excludes:

- 1,085,095 shares of our common stock issuable upon vesting of outstanding restricted stock units as of April 30, 2025;
- 1,823,856 shares of our common stock issuable upon exercise of outstanding warrants as of April 30, 2025, which have a weighted average exercise price of \$5.72 per share;
- 290,977 shares of common stock reserved for issuance and available for future grant under our 2019 Stock Incentive Plan as of April 30, 2025;
- 237,382 shares of common stock reserved for issuance under our Officer and Director Share Purchase Plan as of April 30, 2025; and
- 731,220 shares of common stock reserved for issuance under our 2022 Employee Stock Purchase Plan as of April 30, 2025.

Unless otherwise indicated, all information in this prospectus assumes no exercise of the outstanding options and warrants or any issuance of shares under outstanding restricted stock units, in each case as described above.

RISK FACTORS

An investment in our common stock involves a high degree of risk. You should consider carefully the risks below and the risk and uncertainties described under the heading “Risk Factors” in Item 1A of Part I of our Annual Report on Form 10-K for the fiscal year ended December 31, 2024, which is incorporated by reference in this prospectus, including our audited consolidated financial statements and the related notes, before you decide whether to purchase our common stock. If any of such risks actually occur, our business, financial condition, results of operations, cash flow and prospects could be materially and adversely affected. As a result, the trading price of our common stock could decline and you could lose all or part of your investment in our common stock.

Risks Related to this Offering

The issuance and sale of our common stock to the Selling Stockholder may cause dilution to our other stockholders and the sale of the shares of common stock acquired by the Selling Stockholder, or the perception that such sales may occur, could cause the price of our common stock to fall.

On May 15, 2025, we entered into the Purchase Agreement with the Selling Stockholder, pursuant to which the Selling Stockholder has committed to purchase up to \$10.0 million of our shares of common stock, upon the terms and subject to the conditions set forth in the Purchase Agreement. Upon the execution of the Purchase Agreement, we issued 227,175 Commitment Shares to the Selling Stockholder as consideration for its commitment to purchase our shares of common stock at our direction under the Purchase Agreement. The remaining shares of our common stock that may be issued under the Purchase Agreement may be sold by us to the Selling Stockholder at our discretion from time to time over a 24-month period commencing on the Commencement Date. The purchase price for the shares that we may sell to the Selling Stockholder under the Purchase Agreement will fluctuate based on the market price of our common stock. Depending on demand and market liquidity at the time, sales of such shares by the Selling Stockholder may cause the trading price of our common stock to fall.

We generally have the right to control the timing and amount of any future sales of our shares to the Selling Stockholder. Any sales of our common stock to the Selling Stockholder will depend upon market conditions and other factors to be determined by us. We may ultimately decide to sell to the Selling Stockholder all, some or none of the shares of our common stock that may be available for us to sell pursuant to the Purchase Agreement. If and when we sell shares to the Selling Stockholder, the Selling Stockholder may then resell all, some or none of those shares at any time or from time to time in its discretion. See the section titled “Plan of Distribution” elsewhere in this prospectus for more information. Therefore, our sales to the Selling Stockholder could result in substantial dilution to the interests of other holders of our common stock. Additionally, the sale of a substantial number of shares of our common stock to the Selling Stockholder, or the anticipation of such sales, could make it more difficult for us to sell equity or equity-related securities in the future at a time and at a price that we might otherwise wish to effect sales.

It is not possible to predict the actual number of shares of common stock we may sell to Lincoln Park under the Purchase Agreement or the actual gross proceeds resulting from those sales.

The shares of our common stock that may be issued under the Purchase Agreement may be sold by us to Lincoln Park at our discretion from time to time over an approximately 24-month period commencing on the Commencement Date.

We generally have the right to control the timing and amount of any sales of our shares of common stock to Lincoln Park under the Purchase Agreement, pursuant to which we may issue and sell up to \$10.0 million of shares of common stock, subject to the conditions contained in the Purchase Agreement. Sales of our common stock, if any, to Lincoln Park under the Purchase Agreement will depend upon market conditions and other factors to be determined by us. We may ultimately decide to sell to Lincoln Park all, some or none of the shares of our common stock that may be available for us to sell to Lincoln Park pursuant to the Purchase Agreement.

Because the purchase price per share to be paid by Lincoln Park for the shares of common stock that we may elect to sell to Lincoln Park under the Purchase Agreement, if any, will fluctuate based on the market prices of our common stock at the time we elect to sell shares to Lincoln Park pursuant to the Purchase Agreement, if any, it is not possible for us to predict, as of the date of this prospectus and prior to any such sales, the number of shares of common stock that we will sell to Lincoln Park under the Purchase Agreement, the purchase price per share that Lincoln Park will pay for shares purchased from us under the Purchase Agreement, or the aggregate gross proceeds that we will receive from those purchases by Lincoln Park under the Purchase Agreement.

Moreover, although the Purchase Agreement provides that we may sell up to an aggregate of \$10,000,000 of our common stock to Lincoln Park, only 2,000,000 shares of common stock are being registered under the Securities Act for resale by Lincoln Park under the registration statement of which this prospectus is a part, consisting of (i) the 227,175 Commitment Shares that we issued to Lincoln Park as consideration for its commitment to purchase shares of our common stock under the Purchase Agreement (and for which we will not receive any cash consideration) and (ii) 1,772,825 shares of our common stock that we may elect to sell to Lincoln Park, in our sole discretion, from time to time from and after the Commencement Date under the Purchase Agreement.

If, after the Commencement Date, we elect to sell to the selling stockholder 2,000,000 shares of common stock being registered for resale by Lincoln Park under this prospectus that are available for sale by us to the selling stockholder under the Purchase Agreement, depending on the market prices of our common stock at the time of such sales, the actual gross proceeds from the sale of all such shares of common stock by us to Lincoln Park may be substantially less than the \$10,000,000 total purchase commitment available to us under the Purchase Agreement, which could materially adversely affect our liquidity.

If it becomes necessary for us to issue and sell to Lincoln Park shares of common stock in excess of the Exchange Cap (as defined below) under the Purchase Agreement in order to receive aggregate gross proceeds equal to \$10,000,000 under the Purchase Agreement, then for so long as the Exchange Cap continues to apply to issuances and sales of common stock under the Purchase Agreement, we must first obtain stockholder approval to issue shares of common stock in excess of the Exchange Cap in accordance with applicable Nasdaq listing rules. Furthermore, if we elect to issue and sell to Lincoln Park more than the 1,772,825 shares of our common stock registered for resale by Lincoln Park hereunder, which we have the right, but not the obligation, to do, we must first file with the SEC one or more additional registration statements to register under the Securities Act for resale by Lincoln Park such additional shares of our common stock we wish to sell from time to time under the Purchase Agreement, which the SEC must declare effective, in each case before we may elect to sell any additional shares of our common stock to Lincoln Park under the Purchase Agreement. Any issuance and sale by us under the Purchase Agreement of a substantial amount of shares of common stock in addition to the 2,000,000 shares of common stock being registered for resale by Lincoln Park under this prospectus could cause additional substantial dilution to our stockholders. The number of shares of our common stock ultimately offered for sale by Lincoln Park is dependent upon the number of shares of common stock, if any, we ultimately sell to Lincoln Park under the Purchase Agreement.

Investors who buy shares at different times will likely pay different prices.

Pursuant to the Purchase Agreement, we will have discretion, subject to market demand, to vary the timing, prices, and number of shares sold to Lincoln Park. If and when we do elect to sell shares of our common stock to Lincoln Park pursuant to the Purchase Agreement, Lincoln Park may resell all, some or none of such shares at any time or from time to time in its discretion and at different prices. As a result, investors who purchase shares from Lincoln Park in this offering at different times will likely pay different prices for those shares, and may therefore experience different levels of dilution and in some cases substantial dilution and different outcomes in their investment results. Investors may experience a decline in the value of the shares they purchase from Lincoln Park in this offering as a result of future sales made by us to Lincoln Park at prices lower than the prices such investors paid for their shares in this offering.

Our management will have broad discretion over the use of the net proceeds, if any, from our sale of shares of common stock to Lincoln Park, and you may not agree with how we use the proceeds and the proceeds may not be invested successfully.

Our management will have broad discretion as to the use of the net proceeds from our sale of shares of common stock to Lincoln Park, and we could use them for purposes other than those contemplated at the time of commencement of this offering. Accordingly, you will be relying on the judgment of our management with regard to the use of those net proceeds, and you will not have the opportunity, as part of your investment decision, to assess whether the proceeds are being used appropriately. It is possible that, pending their use, we may invest those net proceeds in a way that does not yield a favorable, or any, return for us. The failure of our management to use such funds effectively could have a material adverse effect on our business, financial condition, operating results and cash flows.

We may not have access to the full amount available under the Purchase Agreement with Lincoln Park. We may require additional financing to sustain our operations, without which we may not be able to continue operations, and the terms of subsequent financings may adversely impact our stockholders.

We may direct Lincoln Park to purchase up to \$10,000,000 of shares of our common stock in a Regular Purchase from time to time under the Purchase Agreement over a 24-month period generally in daily amounts up to 20,000 shares of our common stock, which may be increased to up to 80,000 shares of our common stock depending on the closing sale price of our common stock at the time of sale, provided that Lincoln Park's maximum purchase obligation under any single Regular Purchase shall not exceed \$500,000. Moreover, under certain circumstances as set forth in the Purchase Agreement, we may, in our sole discretion, also direct Lincoln Park to purchase additional shares of common stock in "Accelerated Purchases," and "Additional Accelerated Purchases" (each as defined below) as set forth in the Purchase Agreement.

Depending on the prevailing market price of our common stock, we may not be able to sell shares to Lincoln Park for the maximum \$10,000,000 over the term of the Purchase Agreement. We will need to seek stockholder approval before issuing more than the Exchange Cap limit of 1,888,276 shares of common stock under the Purchase Agreement, unless the average price per share of common stock for all shares of common stock sold by the Company to Lincoln Park under the Purchase Agreement equals or exceeds \$1.02194 per share (representing the average official closing price of the common stock on Nasdaq for the five consecutive trading days ending on the date of the Purchase Agreement, as adjusted under applicable Nasdaq rules to take into account the issuance of Commitment Shares to Lincoln Park in exchange for non-cash consideration), such that the Exchange Cap limitation would no longer apply to issuances and sales of common stock by the Company to Lincoln Park under the Purchase Agreement under applicable Nasdaq listing rules. In addition, Lincoln Park will not be required to purchase any shares of our common stock if such purchase would result in Lincoln Park's beneficial ownership of our common stock exceeding the Beneficial Ownership Limitation (as defined below) of 4.99% of the outstanding shares of our common stock. Our inability to access a portion or the full amount available under the Purchase Agreement, in the absence of any other financing sources, could have a material adverse effect on our business and financial position.

The extent to which we rely on Lincoln Park as a source of funding will depend on a number of factors, including the prevailing market price of our common stock and the extent to which we are able to secure working capital from other sources. Assuming a purchase price of \$0.79 (which represents the closing price of our common stock on May 30, 2025), the purchase by Lincoln Park of the entire 1,772,825 shares of common stock issuable under the Purchase Agreement and being registered for resale by Lincoln Park hereunder would result in gross proceeds to us of \$1,400,531. If obtaining sufficient funding from Lincoln Park were to prove unavailable or prohibitively dilutive, we will need to secure other sources of funding in order to satisfy our working capital needs. Even if we sell all \$10,000,000 of shares of our common stock to Lincoln Park under the Purchase Agreement, we may still need additional capital to finance our future business plans and working capital needs, and we may have to raise funds through the issuance of equity or debt securities.

Depending on the type and the terms of any financing we pursue, stockholders' rights and the value of their investment in our common stock could be reduced. A financing could involve one or more types of securities, including preferred stock, common stock, convertible debt or warrants to acquire common or preferred stock. These securities could be issued at or below the then prevailing market price for our common stock. In addition, if we issue secured debt securities, the holders of the debt would have a claim to our assets that would be prior to the rights of stockholders until the debt is paid. Interest on these debt securities would increase costs and negatively impact operating results and liquidity. If the issuance of new securities results in diminished rights to holders of our common stock, the market price of our common stock could be negatively impacted.

Should the financing we require to sustain our working capital needs be unavailable or prohibitively expensive when we require it, the consequences could be a material adverse effect on our business, operating results, financial condition and prospects.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains forward-looking statements. Certain statements in this prospectus may constitute “forward-looking statements” for purposes of the federal securities laws. Our forward-looking statements include, but are not limited to, statements regarding expectations, hopes, beliefs, intentions or strategies regarding the future. In addition, any statements that refer to projections, forecasts or other characterizations of future events or circumstances, including any underlying assumptions, are forward-looking statements. The words “anticipate,” “believe,” “continue,” “could,” “estimate,” “expect,” “intends,” “may,” “might,” “plan,” “possible,” “potential,” “predict,” “project,” “should,” “will,” “would” and similar expressions may identify forward-looking statements, but the absence of these words does not mean that a statement is not forward-looking. Forward-looking statements in this prospectus may include, for example, statements about:

- our ability to have our Aqua Refining solutions gain market acceptance;
- our ability to acquire additional working capital on reasonable terms, as needed and on a timely basis.
- our intentions, expectations and beliefs regarding anticipated growth, market penetration and trends in our business;
- the timing and success of our plan of commercialization;
- our ability to demonstrate the operation of our AquaRefining process on a commercial scale;
- our ability to successfully apply our AquaRefining technology to the recycling of lithium-ion batteries;
- the effects of market conditions on our stock price and operating results;
- our ability to maintain our competitive technological advantages against competitors in our industry;
- our ability to maintain, protect and enhance our intellectual property;
- the effects of increased competition in our market and our ability to compete effectively;
- costs associated with defending intellectual property infringement and other claims;
- our expectations concerning our relationships with suppliers, partners and other third parties; and
- our ability to comply with evolving legal standards and regulations, particularly concerning requirements for being a public company and environmental regulations.

The forward-looking statements contained in this prospectus are based on current expectations and beliefs concerning future developments and their potential effects on the Company. There can be no assurance that future developments affecting us will be those that we have anticipated. These forward-looking statements involve a number of risks, uncertainties, some of which are beyond our control, or other assumptions that may cause actual results or performance to be materially different from those expressed or implied by these forward-looking statements. These risks and uncertainties include, but are not limited to, those factors described in the section entitled “Risk Factors” and in our periodic filings with the SEC. Our SEC filings are available publicly on the SEC website at www.sec.gov. Should one or more of these risks or uncertainties materialize, or should any of our assumptions prove incorrect, actual results may vary in material respects from those projected in these forward-looking statements. Accordingly, forward-looking statements in this prospectus should not be relied upon as representing our views as of any subsequent date, and we undertake no obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as may be required under applicable securities laws.

THE LINCOLN PARK TRANSACTION

General

On May 15, 2025, we entered into the Purchase Agreement with Lincoln Park, pursuant to which Lincoln Park has agreed, upon the terms and subject to the conditions set forth in the Purchase Agreement, to purchase from us up to an aggregate of \$10,000,000 of our common stock (subject to certain limitations set forth in the Purchase Agreement), from time to time and at our sole discretion for a period of up to 24 months after the Commencement Date.

Also on May 15, 2025, we entered into the Registration Rights Agreement, pursuant to which we filed with the SEC the registration statement that includes this prospectus to register under the Securities Act for resale by Lincoln Park up to 2,000,000 shares of common stock, consisting of (i) the 227,175 Commitment Shares that we previously issued to Lincoln Park on May 15, 2025 as consideration for its commitment to purchase shares of our common stock at our direction under the Purchase Agreement and (ii) up to 1,772,825 shares of our common stock that we may elect to sell to Lincoln Park, in our sole discretion, from time to time for a period of up to 24 months from and after the Commencement Date under the Purchase Agreement.

We do not have the right to commence any sales of common stock to Lincoln Park under the Purchase Agreement until all of the conditions set forth in the Purchase Agreement have been satisfied on the Commencement Date, including that the registration statement of which this prospectus is a part is declared effective by the SEC and a final prospectus relating thereto is filed with the SEC. From and after the Commencement Date, on any business day that we select as the purchase date therefor on which the closing sale price of our common stock is not below \$0.25 (subject to adjustment as set forth in the Purchase Agreement) per share (the “Floor Price”), we may, from time to time and at our sole discretion for a period of up to 24 months after the Commencement Date, by written notice delivered by us to Lincoln Park, direct Lincoln Park to purchase up to 20,000 shares of common stock (subject to adjustment as set forth in the Purchase Agreement) in a Regular Purchase, at a purchase price per share that will be determined and fixed in accordance with the Purchase Agreement at the time we deliver such written notice to Lincoln Park on the purchase date for such Regular Purchase. The maximum share limit for a Regular Purchase shall be increased to higher share threshold amounts in the Purchase Agreement, up to a maximum share limit of 80,000 shares of common stock, with the applicable maximum share limit determined by whether the closing price for our common stock on the applicable purchase date exceeds certain price thresholds set forth in the Purchase Agreement, in each case, subject to adjustment for any recapitalization, non-cash dividend, forward or reverse stock split or other similar transactions as provided in the Purchase Agreement; however, Lincoln Park’s maximum purchase commitment in any single regular purchase may not exceed \$500,000. The purchase price per share of common stock sold in each such Regular Purchase, if any, will be based on market prices of the common stock over a specified period immediately preceding the time of sale as computed under the Purchase Agreement.

In addition, at our discretion, Lincoln Park has committed to purchase other “accelerated amounts” or “additional accelerated amounts” under certain circumstances. We will control the timing and amount of any sales of our common stock to Lincoln Park. The purchase price per share of common stock sold in each such Accelerated Purchase and Additional Accelerated Purchase, if any, will be based on market prices of the common stock on the applicable purchase dates for such Accelerated Purchases and Additional Accelerated Purchases as computed under the Purchase Agreement.

Under the applicable Nasdaq listing rules, in no event may we issue to Lincoln Park under the Purchase Agreement more than the Exchange Cap limit of 1,888,276 shares of our common stock (including the Commitment Shares), which number of shares is equal to 19.99% of the shares of common stock outstanding immediately prior to the execution of the Purchase Agreement, unless (i) the Company first obtains stockholder approval to issue shares of common stock in excess of the Exchange Cap in accordance with applicable Nasdaq listing rules, or (ii) at the time the Company has issued shares of common stock equal to the Exchange Cap and at all times thereafter, the average price per share of common stock for all shares of common stock sold by the Company to Lincoln Park under the Purchase Agreement equals or exceeds \$1.02194 per share (which represents the lower of (A) the official closing price of our common stock on Nasdaq on the date of the Purchase Agreement and (B) the average official closing price of our common stock on Nasdaq for the five consecutive trading days ending on the date of the Purchase Agreement, as adjusted under applicable Nasdaq rules to take into account the issuance of Commitment Shares to Lincoln Park for non-cash consideration), such that the Exchange Cap limitation would no longer apply to issuances and sales of common stock by the Company to Lincoln Park under the Purchase Agreement under applicable Nasdaq listing rules.

The Purchase Agreement also prohibits the Company from directing Lincoln Park to purchase any shares of common stock if those shares, when aggregated with all other shares of common stock then beneficially owned by Lincoln Park (as calculated pursuant to Section 13(d) of the Exchange Act and Rule 13d-3 thereunder), would result in Lincoln Park beneficially owning more than 4.99% of the outstanding shares of our common stock (the “Beneficial Ownership Limitation”).

The Company will control the timing and amount of any sales of common stock to Lincoln Park pursuant to the Purchase Agreement. Lincoln Park has no right to require the Company to sell any shares of common stock to Lincoln Park under the Purchase Agreement, but Lincoln Park is obligated to make purchases of common stock as the Company directs, upon the terms and subject to the satisfaction of the conditions set forth in the Purchase Agreement.

We may not assign or transfer our rights and obligations under the Purchase Agreement without consent of Lincoln Park. Lincoln Park may not assign or transfer its rights and obligations under the Purchase Agreement. No provision of the Purchase Agreement or the Registration Rights Agreement may be modified or waived by the Company or Lincoln Park.

Actual sales of shares of common stock by the Company to Lincoln Park under the Purchase Agreement will depend on a variety of factors to be determined by the Company from time to time, including, among others, market conditions, the trading price of the common stock and determinations by the Company as to the appropriate sources of funding for the Company and its operations.

As consideration for Lincoln Park’s commitment to purchase shares of common stock from us at our direction from time to time from and after the Commencement Date pursuant to the Purchase Agreement, promptly following our execution of the Purchase Agreement and the Registration Rights Agreement, we issued 227,175 Commitment Shares to Lincoln Park on May 15, 2025. All 227,175 Commitment Shares that we issued to Lincoln Park are included in the 2,000,000 shares of common stock being registered under the Securities Act for resale by Lincoln Park under the registration statement of which this prospectus is a part.

As of May 30, 2025, there were 9,673,280 shares of common stock outstanding (which includes the 227,175 Commitment Shares we issued to Lincoln Park on May 15, 2025 in consideration of Lincoln Park’s obligation to purchase shares of our common stock at our direction under the Purchase Agreement), of which 347,221 shares were held by affiliates of the Company. Although the Purchase Agreement provides that we may, in our discretion, from time to time after the date of this prospectus and during the term of the Purchase Agreement, direct Lincoln Park to purchase shares of our common stock from us in one or more purchases under the Purchase Agreement, for a maximum aggregate purchase price of up to \$10,000,000, only 2,000,000 shares of common stock (227,175 of which represent the Commitment Shares that have been issued by us to Lincoln Park on May 15, 2025, for which we will receive no cash proceeds) are being registered for resale under the registration statement that includes this prospectus. If, in addition to the 227,175 Commitment Shares that are currently outstanding, all of the additional 1,772,825 shares of common stock offered for resale by Lincoln Park under this prospectus (without taking into account the 19.99% Exchange Cap limitation applicable to issuances and sales of common stock under the Purchase Agreement) were issued and outstanding as of May 30, 2025, such shares would represent approximately 15.5% of the total number of shares of our common stock outstanding, and approximately 16.0% of the total number of outstanding shares held by non-affiliates of the Company, in each case as of May 30, 2025.

Purchases of Shares of our common stock under the Purchase Agreement

Regular Purchases

From and after the Commencement Date, on any business day that we select as the purchase date therefor on which the closing sale price of our common stock is not below the Floor Price (and provided all shares of common stock subject to all prior Regular Purchases that we have effected under the Purchase Agreement, if any, have been received by Lincoln Park before we deliver notice to Lincoln Park for such Regular Purchase in accordance with the Purchase Agreement), the Company may, by written notice delivered by us to Lincoln Park, direct Lincoln Park to purchase up to 20,000 shares of common stock on such purchase date in a Regular Purchase, provided, however, that the maximum number of shares we may sell to Lincoln Park in a Regular Purchase may be increased to:

- up to 40,000 shares, provided that the closing sale price of the common stock on the applicable purchase date is not below \$1.00;
- up to 60,000 shares, provided that the closing sale price of the common stock on the applicable purchase date is not below \$2.00; and
- up to 80,000 shares, provided that the closing sale price of the common stock on the applicable purchase date is not below \$3.00 (each of such share and dollar amounts subject to adjustment for any reorganization, recapitalization, non-cash dividend, stock split, reverse stock split or other similar transaction as provided in the Purchase Agreement).

In any case, however, Lincoln Park's maximum purchase commitment in any single Regular Purchase may not exceed \$500,000.

The purchase price per share of common stock sold in each such Regular Purchase, if any, will be equal to 97% of the lower of:

- the lowest sale price for our common stock on the purchase date for such Regular Purchase; and
- the arithmetic average of the three lowest closing sale prices for our common stock during the 10 consecutive business days ending on the business day immediately preceding the purchase date for such Regular Purchase.

Accelerated Purchases

In addition to Regular Purchases described above, on any purchase date for a Regular Purchase on which we have properly submitted a Regular Purchase notice directing Lincoln Park to purchase the maximum number of shares of our common stock that we are then permitted to include in a single Regular Purchase notice (and provided all shares of common stock subject to all prior Regular Purchases, Accelerated Purchases and Additional Accelerated Purchases that we have effected under the Purchase Agreement prior to such purchase date, if any, have been received by Lincoln Park before we deliver notice to Lincoln Park for such Accelerated Purchase in accordance with the Purchase Agreement), we may, by written notice delivered by us to Lincoln Park simultaneously with such Regular Purchase notice for such corresponding Regular Purchase, direct Lincoln Park to purchase an additional amount of our common stock, which we refer to as an "Accelerated Purchase," on the next business day following such purchase date for such corresponding Regular Purchase, which we refer to as the "Accelerated Purchase Date," not to exceed the lesser of:

- 30% of the aggregate number of shares of our common stock traded during all or, if certain trading volume or market price thresholds specified in the Purchase Agreement are crossed on the applicable Accelerated Purchase Date, the portion of the normal trading hours the applicable Accelerated Purchase Date prior to such time that any one of such thresholds is crossed, which period of time on the applicable Accelerated Purchase Date we refer to as the "Accelerated Purchase Measurement Period"; and
- 300% of the number of shares of common stock purchased pursuant to the corresponding Regular Purchase.

The purchase price per share for the shares of common stock subject to an Accelerated Purchase will be equal to 97% of the lower of:

- the volume weighted average price of our common stock during the Accelerated Purchase Measurement Period on the applicable Accelerated Purchase Date; and

- the closing sale price of our common stock on the applicable Accelerated Purchase Date.

Additional Accelerated Purchases

We may also direct Lincoln Park, by written notice delivered to Lincoln Park not later than 1:00 p.m., Eastern time, on an Accelerated Purchase Date (and provided all shares of common stock subject to all prior Regular Purchases, Accelerated Purchases and Additional Accelerated Purchases that we have effected under the Purchase Agreement, including those prior Accelerated Purchases and Additional Accelerated Purchases effected on the same Accelerated Purchase Date as the applicable Additional Accelerated Purchase, if any, have been received by Lincoln Park in accordance with the Purchase Agreement before we deliver notice to Lincoln Park for such Additional Accelerated Purchase), to purchase an additional amount of our common stock on such same Accelerated Purchase Date, which we refer to as an “Additional Accelerated Purchase,” of up to the lesser of:

- 30% of the aggregate number of shares of our common stock traded during the portion of the normal trading hours on the applicable Accelerated Purchase Date determined in accordance with the Purchase Agreement, which period of time on the applicable Accelerated Purchase Date we refer to as the Additional Accelerated Purchase Measurement Period; and
- 300% of the number of shares of common stock purchased pursuant to the Regular Purchase corresponding to the Accelerated Purchase effected on such same Accelerated Purchase Date.

The purchase price per share for the shares subject to an Additional Accelerated Purchase will be equal to 97% of the lower of:

- the volume weighted average price of our common stock during the applicable Additional Accelerated Purchase Measurement Period for such Additional Accelerated Purchase; and
- the closing sale price of our common stock on the applicable same Accelerated Purchase Date.

We may, in our sole discretion, submit multiple Additional Accelerated Purchase notices to Lincoln Park prior to 1:00 p.m., Eastern time, on a single Accelerated Purchase Date, again provided all shares of common stock subject to all prior Regular Purchases, Accelerated Purchases and Additional Accelerated Purchases, including those prior Accelerated Purchases and Additional Accelerated Purchases effected on the same Accelerated Purchase Date as the applicable Additional Accelerated Purchase have been properly delivered to Lincoln Park in accordance with the Purchase Agreement prior to such time.

In the case of Regular Purchases, Accelerated Purchases and Additional Accelerated Purchases, the purchase prices per share of common stock to be sold therein will be equitably adjusted for any reorganization, recapitalization, non-cash dividend, stock split, reverse stock split or other similar transaction occurring during the business days used to compute the purchase price.

Other than as described above, there are no trading volume requirements or restrictions under the Purchase Agreement, and we will control the timing and amount of any sales of our common stock to Lincoln Park.

Suspension Events

“Suspension Events” under the Purchase Agreement include the following:

- the effectiveness of the registration statement of which this prospectus forms a part lapses for any reason (including, without limitation, the issuance of a stop order), or any required prospectus supplement and accompanying prospectus are unavailable for the resale by Lincoln Park of our common stock offered hereby, and such lapse or unavailability continues for a period of 10 consecutive business days or for more than an aggregate of 30 business days in any 365-day period;

- suspension by our principal market of our common stock from trading for a period of one business day;
- the delisting of our common stock from The Nasdaq Capital Market, our principal market, or any nationally recognize successor thereto, unless our common stock is not immediately thereafter trading on the New York Stock Exchange, The Nasdaq Global Market, The Nasdaq Global Select Market, the NYSE American, the NYSE Arca, or the OTCQX Best Market or the OTCQB Venture Market operated by OTC Markets Group Inc. (or any nationally recognized successors thereto);
- the failure of our transfer agent to issue to Lincoln Park shares of our common stock within two business days after the applicable date on which Lincoln Park is entitled to receive such shares of our common stock;
- our breach of any of the representations or warranties or covenants contained in the Purchase Agreement or Registration Rights Agreement that has or could have a material adverse effect on us and, in the case of a breach of a covenant that is reasonably curable, that is not cured within five consecutive business days;
- any voluntary or involuntary participation or threatened participation in insolvency or bankruptcy proceedings by or against us;
- if at any time we are not eligible to transfer our common stock electronically; or
- if at any time we have issued and sold under the Purchase Agreement an aggregate number of shares of common stock equal to the Exchange Cap (to the extent applicable under the terms of the Purchase Agreement) and our stockholders have not approved the issuance of shares of common stock under the Purchase Agreement in excess of the Exchange Cap in accordance with applicable Nasdaq listing rules.

Lincoln Park does not have the right to terminate the Purchase Agreement upon the occurrence of any of the Suspension Events set forth above, all of which are outside of Lincoln Park's control, although the Purchase Agreement would automatically terminate without any action of the Company or Lincoln Park in the event of any voluntary or involuntary bankruptcy proceedings by or against the Company that are not discharged within 90 days. So long as a Suspension Event has occurred and is continuing, or if any event which, after notice and/or lapse of time, would reasonably be expected to become a Suspension Event has occurred and is continuing, we may not direct Lincoln Park to purchase any shares of our common stock under the Purchase Agreement.

Our Termination Rights

We have the unconditional right, at any time, for any reason and without any payment or liability to us, to terminate the Purchase Agreement upon one business day's prior written notice to Lincoln Park. In the event of any voluntary or involuntary bankruptcy proceedings by or against the Company that are not discharged within 90 days, the Purchase Agreement would automatically terminate without any action of the Company or Lincoln Park. No termination of the Purchase Agreement will be effective during the pendency of any Regular Purchase, Accelerated Purchase or Additional Accelerated Purchase that has not then fully settled in accordance with the Purchase Agreement.

No Short-Selling or Hedging by Lincoln Park

Lincoln Park has represented to us that at no time prior to the time of execution of the Purchase Agreement has Lincoln Park or its agents, representatives or affiliates engaged in or effected, in any manner whatsoever, directly or indirectly, any short sale (as such term is defined in Rule 200 of Regulation SHO under the Exchange Act) of our common stock or any hedging transaction, which establishes a net short position with respect to our common stock. Lincoln Park agreed that during the term of the Purchase Agreement, it, its agents, representatives or affiliates will not enter into or effect, directly or indirectly, any of the foregoing transactions.

Prohibitions on Similar Transactions

There are no restrictions on future financings, rights of first refusal, participation rights, penalties or liquidated damages in the Purchase Agreement or Registration Rights Agreement, except the Company is prohibited from effecting or entering into any agreement to effect an “equity line of credit”, “at-the-market offering” or other similar offering with another third party in which the Company may issue and sell common stock, from time to time over a certain period of time, at future determined prices based on the market prices of the common stock at the time of each such issuance and sale, until the earlier of (i) the 180th day following the effective date of any termination of the Purchase Agreement in accordance with its terms and (ii) the later of (A) the 24-month anniversary of the date of the Purchase Agreement and (B) the Maturity Date. The foregoing prohibition is subject to certain exceptions, including that we may issue shares of common stock in an “at-the-market offering” under Rule 415(a)(4) under the Securities Act exclusively through one or more registered broker-dealer(s) acting as our agent(s) pursuant to a written agreement between us and such registered broker-dealer(s).

Effect of Performance of the Purchase Agreement on Our Stockholders

All shares of our common stock being registered for resale hereunder which may be issued or sold by us to Lincoln Park under the Purchase Agreement are expected to be freely tradable. It is anticipated that shares registered in this offering will be sold from time to time over a period of up to 24 months commencing on the date that the registration statement of which this prospectus is a part becomes effective.

Pursuant to the Purchase Agreement, we will have discretion, subject to market demand, to vary the timing, prices, and numbers of shares sold to Lincoln Park. Sales of our common stock, if any, to Lincoln Park under the Purchase Agreement will depend upon market conditions and other factors to be determined by us. We may ultimately decide to sell to Lincoln Park all, some or none of the shares of our common stock that may be available for us to sell to Lincoln Park pursuant to the Purchase Agreement. Because the purchase price per share to be paid by Lincoln Park for the shares of common stock that we may elect to sell to Lincoln Park under the Purchase Agreement, if any, will fluctuate based on the market prices of our common stock at the time we elect to sell shares to Lincoln Park pursuant to the Purchase Agreement, if any, it is not possible for us to predict, as of the date of this prospectus and prior to any such sales, the number of shares of common stock that we will sell to Lincoln Park under the Purchase Agreement, the purchase price per share that Lincoln Park will pay for shares purchased from us under the Purchase Agreement, or the aggregate gross proceeds that we will receive from those purchases by Lincoln Park under the Purchase Agreement.

If and when we do elect to sell shares of our common stock to Lincoln Park pursuant to the Purchase Agreement, after Lincoln Park has acquired such shares, Lincoln Park may resell all, some or none of such shares at any time or from time to time in its discretion and at different prices. As a result, investors who purchase shares from Lincoln Park in this offering at different times will likely pay different prices for those shares, and so may experience different levels of dilution and in some cases substantial dilution and different outcomes in their investment results. Investors may experience a decline in the value of the shares they purchase from Lincoln Park in this offering as a result of future sales made by us to Lincoln Park at prices lower than the prices such investors paid for their shares in this offering.

Moreover, although the Purchase Agreement provides that we may, in our discretion, from time to time after the date of this prospectus and during the term of the Purchase Agreement, direct Lincoln Park to purchase shares of our common stock from us in one or more purchases under the Purchase Agreement, for a maximum aggregate purchase price of up to \$10,000,000, only 2,000,000 shares of common stock (227,175 of which represent the Commitment Shares that have been issued by us to Lincoln Park on May 15, 2025, for which we will receive no cash proceeds) are being registered for resale under the registration statement that includes this prospectus. Therefore, only 1,772,825 of such shares of common stock represent shares that we may issue and sell to Lincoln Park for cash consideration in purchases under the Purchase Agreement from time to time, at our sole discretion, during the 24-month period commencing on the Commencement Date. If after the Commencement Date we elect to sell to the selling stockholder all of the 1,772,825 shares of common stock being registered for resale under this prospectus that are available for sale by us to the selling stockholder in purchases under the Purchase Agreement, depending on the market prices of our common stock at the time of such sales, the actual gross proceeds from the sale of all such shares may be substantially less than the \$10,000,000 total purchase commitment available to us under the Purchase Agreement, which could materially adversely affect our liquidity.

If it becomes necessary for us to issue and sell to Lincoln Park shares of common stock in excess of the Exchange Cap under the Purchase Agreement in order to receive aggregate gross proceeds equal to \$10,000,000 in under the Purchase Agreement, then for so long as the Exchange Cap continues to apply to issuances and sales of common stock under the Purchase Agreement, we must first obtain stockholder approval to issue shares of common stock in excess of the Exchange Cap in accordance with applicable Nasdaq listing rules. Furthermore, if we elect to issue and sell to Lincoln Park more than the 1,772,825 shares of our common stock that we may elect to issue and sell to Lincoln Park under the Purchase Agreement that are being registered for resale by Lincoln Park hereunder, which we have the right, but not the obligation, to do, we must first file with the SEC one or more additional registration statements to register under the Securities Act for resale by Lincoln Park such additional shares of our common stock, which the SEC must declare effective, in each case before we may elect to sell any such additional shares of our common stock. Any issuance and sale by us under the Purchase Agreement of a substantial amount of shares of common stock in addition to the 2,000,000 shares of common stock being registered for resale by Lincoln Park under this prospectus could cause additional substantial dilution to our stockholders.

The number of shares of common stock ultimately resold by Lincoln Park through this prospectus is dependent upon the total number of shares of common stock, if any, we elect to issue and sell to Lincoln Park under the Purchase Agreement from and after the Commencement Date and during the term of the Purchase Agreement. Issuances of our common stock to Lincoln Park under the Purchase Agreement will not affect the rights or privileges of our existing stockholders, except that the economic and voting interests of each of our existing stockholders will be diluted as a result of any such issuance. Although the number of shares of our common stock that our existing stockholders own will not decrease, the shares of our common stock owned by our existing stockholders will represent a smaller percentage of our total outstanding shares of our common stock after any such issuance of shares of our common stock to Lincoln Park under the Purchase Agreement.

USE OF PROCEEDS

We will not receive any of the proceeds from the sale of any common stock by the Selling Stockholder offered under this prospectus, but we will bear all fees and expenses incident to our obligation to register the shares of common stock being offered for resale hereunder by the Selling Stockholder.

We may receive up to \$10.0 million in aggregate gross proceeds under the Purchase Agreement from any sales we make to the Selling Stockholder pursuant to the Purchase Agreement. The net proceeds, if any, under the Purchase Agreement, will depend on the frequency and prices at which we sell shares of common stock to the Selling Stockholder after the date of this prospectus. Because we are not obligated to sell any shares of our common stock under the Purchase Agreement, other than the Commitment Shares, the actual total offering amount and proceeds to us, if any, are not determinable at this time. See the section titled “Plan of Distribution” elsewhere in this prospectus for more information. We expect to use any proceeds that we receive under the Purchase Agreement for working capital and general corporate purposes.

DESCRIPTION OF CAPITAL STOCK

The following summary of the material terms of our capital stock is not intended to be a complete summary of the rights and preferences of such securities. We urge you to read our first amended and restated certificate of incorporation, including the amendments thereto, which we refer to as our certificate of incorporation, and our third amended and restated bylaws, which we refer to our bylaws, in its entirety for a complete description of the rights and preferences of our capital stock.

Common Stock

We are authorized to issue 300,000,000 shares of \$0.001 par value common stock. As of the date of this prospectus, there are 9,446,105 shares of common stock issued and outstanding.

Holders of shares of common stock are entitled to one vote per share on all matters to be voted upon by the stockholders generally. Stockholders are entitled to receive such dividends as may be declared from time to time by the board of directors out of funds legally available therefor, and in the event of liquidation, dissolution or winding up of the company to share ratably in all assets remaining after payment of liabilities. The holders of shares of common stock have no preemptive, conversion, subscription or cumulative voting rights.

Record Holders

As of the date of this prospectus, our outstanding shares of common stock were held of record by nine stockholders.

Dividends

We do not anticipate the payment of cash dividends on our common stock in the foreseeable future.

Anti-Takeover Effects of Certain Provisions of Our Certificate of Incorporation and Bylaws and Delaware General Corporation Law

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.

Exclusive Forum Selection

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.

Listing on the Nasdaq Capital Market

The common stock is listed on The Nasdaq Capital Market under the symbol "AQMS."

Transfer Agent and Registrar

The transfer agent and registrar for the common stock is VStock Transfer, LLC, 18 Lafayette Place, Woodmere, New York 11598.

SELLING STOCKHOLDER

This prospectus relates to the possible resale by the selling stockholder, Lincoln Park, of up to 2,000,000 shares of our common stock, consisting of: (i) 227,175 Commitment Shares that we issued to Lincoln Park as consideration for its commitment to purchase shares of our common stock under the Purchase Agreement and (ii) up to 1,772,825 shares of common stock that we have reserved for issuance and sale to Lincoln Park under the Purchase Agreement from time to time from and after the Commencement Date, if and when we determine to sell shares of our common stock to Lincoln Park under the Purchase Agreement.

We are filing the registration statement of which this prospectus is a part pursuant to the provisions of the Registration Rights Agreement, which we entered into with Lincoln Park on May 15, 2025 concurrently with our execution of the Purchase Agreement, in which we agreed to provide certain registration rights with respect to resales by Lincoln Park of the shares of our common stock that have been or may be issued to Lincoln Park under the Purchase Agreement. The selling stockholder may sell some, all or none of the shares of common stock included in this prospectus. We do not know how long the selling stockholder will hold the shares of our common stock before selling them, and we currently have no agreements, arrangements or understandings with the selling stockholder regarding the sale of any of the shares of common stock. See “Plan of Distribution.”

The table below sets forth, to our knowledge, information concerning the beneficial ownership of shares of our common stock by the selling stockholder as of May 30, 2025. The percentages of shares owned before and after the offering are based on 9,673,280 shares of common stock outstanding as of May 30, 2025, which includes the 227,175 Commitment Shares that we issued to Lincoln Park on May 15, 2025 following our execution of the Purchase Agreement on May 15, 2025. The information in the table below with respect to the selling stockholder has been obtained from the selling stockholder.

Beneficial ownership is determined in accordance with the rules of the SEC and includes voting or investment power with respect to shares. Unless otherwise indicated below, to our knowledge, all persons named in the table have sole voting and investment power with respect to their shares of common stock. The inclusion of any shares in this table does not constitute an admission of beneficial ownership for the person named below.

Throughout this prospectus, when we refer to the shares of common stock being offered for resale by the Selling Stockholder, we are referring to the shares of common stock that have been and may be issued and sold by us to Lincoln Park pursuant to the Purchase Agreement, unless otherwise indicated.

| Name of Selling Stockholder | Number of Shares of Common Stock Owned Prior to Offering ⁽²⁾ | | Maximum Number of Shares of Common Stock to be Offered Pursuant to this Prospectus ⁽³⁾ | Number of Shares of Common Stock Owned After Offering ⁽⁴⁾ | |
|---|---|---------|---|--|---------|
| | Number | Percent | | Number | Percent |
| Lincoln Park Capital Fund, LLC ⁽¹⁾ | 227,175 | 2.3% | 2,000,000 | 0 | 2.3% |

(1) Josh Scheinfeld and Jonathan Cope, the Managing Members of Lincoln Park Capital, LLC, the manager of Lincoln Park Capital Fund, LLC, are deemed to be beneficial owners of all of the shares of common stock owned directly by Lincoln Park Capital Fund, LLC. Messrs. Cope and Scheinfeld have shared voting and investment power over the shares of common stock being offered under the registration statement filed with the SEC in connection with the transactions contemplated under the Purchase Agreement and the Registration Rights Agreement. Neither Lincoln Park Capital, LLC nor Lincoln Park Capital Fund, LLC is a licensed broker dealer or an affiliate of a licensed broker dealer.

(2) Represents the 227,175 Commitment Shares that we issued to Lincoln Park on May 15, 2025 as consideration for its commitment to purchase our common stock at our direction under the Purchase Agreement. In accordance with Rule 13d-3(d) under the Exchange Act, we have excluded from the number of shares of our common stock beneficially owned prior to the offering all of the 1,772,825 shares of our common stock that we may issue and sell to Lincoln Park pursuant to the Purchase Agreement from and after commencement that are being registered for resale under the registration statement that includes this prospectus, because the issuance and sale of such shares to Lincoln Park under the Purchase Agreement is solely at our discretion and is subject to certain conditions, the satisfaction of all of which are outside of Lincoln Park's control, including the registration statement that includes this prospectus becoming and remaining effective under the Securities Act. Furthermore, under the terms of the Purchase Agreement, issuances and sales of shares of our common stock to Lincoln Park under the Purchase Agreement are subject to certain limitations on the amounts we may sell to Lincoln Park at any time, including the Exchange Cap and the Beneficial Ownership Limitation. See the description under the heading "The Lincoln Park Transaction" for more information about the Purchase Agreement.

(3) Although the Purchase Agreement provides that we may sell up to \$10,000,000 of our common stock to Lincoln Park, we are only registering 2,000,000 shares of our common stock for resale under this prospectus, including the 227,175 Commitment Shares that we issued to Lincoln Park on May 15, 2025 as consideration for its commitment to purchase our common stock at our direction under the Purchase Agreement, for which we will receive no cash proceeds. Therefore, only 1,772,825 of such shares represent shares that we may issue and sell to Lincoln Park for cash consideration in purchases under the Purchase Agreement from time to time, at our sole discretion, during a period of up to 24 months following the Commencement Date. Depending on the price per share at which we sell our common stock to Lincoln Park pursuant to the Purchase Agreement, we may need to sell to Lincoln Park under the Purchase Agreement more shares of our common stock than are offered under this prospectus in order to receive aggregate gross proceeds equal to the full \$10,000,000 available to us under the Purchase Agreement. If we choose to do so, we must first register for resale under the Securities Act such additional shares. The number of shares ultimately offered for resale by Lincoln Park is dependent upon the number of shares we sell to Lincoln Park under the Purchase Agreement.

(4) Assumes the sale of all shares of our common stock registered for resale by the selling stockholder pursuant to the registration statement that includes this prospectus, although the selling stockholder is under no obligation known to us to sell any shares of common stock at any particular time.

PLAN OF DISTRIBUTION

The shares of our common stock offered by this prospectus are being offered by the Selling Stockholder, Lincoln Park Capital Fund, LLC. The shares may be sold or distributed from time to time by the Selling Stockholder directly to one or more purchasers or through brokers, dealers, or underwriters who may act solely as agents at market prices prevailing at the time of sale, at prices related to the prevailing market prices, at negotiated prices, or at fixed prices, which may be changed. The sale of our common stock offered by this prospectus could be effected in one or more of the following methods:

- ordinary brokers' transactions;
- transactions involving cross or block trades;
- through brokers, dealers, or underwriters who may act solely as agents;
- "at the market" into an existing market for the shares of our common stock;
- in other ways not involving market makers or established business markets, including direct sales to purchasers or sales effected through agents;
- in privately negotiated transactions; or
- any combination of the foregoing.

In order to comply with the securities laws of certain states, if applicable, the shares of our common stock offered by this prospectus may be sold only through registered or licensed brokers or dealers. In addition, in certain states, the shares of our common stock offered by this prospectus may not be sold unless they have been registered or qualified for sale in the state or an exemption from the state's registration or qualification requirement is available and complied with.

Lincoln Park is an "underwriter" within the meaning of Section 2(a)(11) of the Securities Act.

Lincoln Park has informed us that it intends to use an unaffiliated broker-dealer to effectuate all sales, if any, of our common stock that it has acquired and may in the future acquire from us pursuant to the Purchase Agreement. Such sales will be made at prices and at terms then prevailing or at prices related to the then current market price. Each such unaffiliated broker-dealer will be an underwriter within the meaning of Section 2(a)(11) of the Securities Act. Lincoln Park has informed us that each such broker-dealer will receive commissions from Lincoln Park that will not exceed customary brokerage commissions.

Brokers, dealers, underwriters or agents participating in the distribution of the shares of our common stock offered by this prospectus may receive compensation in the form of commissions, discounts, or concessions from the purchasers, for whom the broker-dealers may act as agent, of shares of our common stock sold by Lincoln Park through this prospectus. The compensation paid to any such particular broker-dealer by any such purchasers of shares of our common stock sold by Lincoln Park may be less than or in excess of customary commissions. Neither we nor Lincoln Park can presently estimate the amount of compensation that any agent will receive from any purchasers of shares of our common stock sold by Lincoln Park.

We know of no existing arrangements between Lincoln Park or any other stockholder, broker, dealer, underwriter or agent relating to the sale or distribution of the shares of our common stock offered by this prospectus.

We may from time to time file with the SEC one or more supplements to this prospectus or amendments to the registration statement of which this prospectus is a part to amend, supplement or update information contained in this prospectus, including, if and when required under the Securities Act, to disclose certain information relating to a particular sale of shares of our common stock offered by this prospectus by the selling stockholder, including the names of any brokers, dealers, underwriters or agents participating in the distribution of such shares of our common stock by the selling stockholder, any compensation paid by Lincoln Park to any such brokers, dealers, underwriters or agents, and any other required information.

We will pay the expenses incident to the registration under the Securities Act of the offer and sale of the shares of our common stock included in this prospectus by Lincoln Park. We estimate that the total expenses for the offering will be approximately \$75,000.

We have agreed to indemnify Lincoln Park and certain other persons against certain liabilities in connection with the offering of shares of our common stock offered by this prospectus, including liabilities arising under the Securities Act or, if such indemnity is unavailable, to contribute amounts required to be paid in respect of such liabilities. Lincoln Park has agreed to indemnify us against liabilities under the Securities Act that may arise from certain written information furnished to us by Lincoln Park specifically for use in this prospectus or, if such indemnity is unavailable, to contribute amounts required to be paid in respect of such liabilities.

Lincoln Park has represented to us that at no time prior to entering into the Purchase Agreement has Lincoln Park or its agents, representatives or affiliates engaged in or effected, in any manner whatsoever, directly or indirectly, any short sale (as such term is defined in Rule 200 of Regulation SHO of the Exchange Act) of our common stock or any hedging transaction, which establishes a net short position with respect to our common stock. Lincoln Park agreed that during the term of the Purchase Agreement, it, its agents, representatives and affiliates will not enter into or effect, directly or indirectly, any of the foregoing transactions.

We have advised Lincoln Park that it is required to comply with Regulation M promulgated under the Exchange Act. With certain exceptions, Regulation M precludes the Selling Stockholder, any affiliated purchasers, and any broker-dealer or other person who participates in the distribution from bidding for or purchasing, or attempting to induce any person to bid for or purchase any security which is the subject of the distribution until the entire distribution is complete. Regulation M also prohibits any bids or purchases made in order to stabilize the price of a security in connection with the distribution of that security. All of the foregoing may affect the marketability of the securities offered by this prospectus.

This offering will terminate on the date that all shares of our common stock offered by this prospectus have been sold by Lincoln Park.

Our common stock is currently listed on The Nasdaq Capital Market under the symbol "AQMS".

LEGAL MATTERS

The validity of the securities offered by this prospectus has been passed upon for us by Greenberg Traurig, LLP, Irvine, California.

EXPERTS

The consolidated financial statements of Aqua Metals, Inc. as of December 31, 2024 and 2023 and for the fiscal years then ended, have been audited by Forvis Mazars LLP, independent registered public accounting firm, as set forth in their report thereon, included in Aqua Metals, Inc.'s Annual Report on Form 10-K for the fiscal year ended December 31, 2024, and incorporated herein by reference. Such consolidated financial statements have been incorporated herein by reference in reliance upon such report given on the authority of such firm as experts in accounting and auditing. The report of Forvis Mazars LLP contains an explanatory paragraph regarding substantial doubt about the Company's ability to continue as a going concern.

INCORPORATION BY REFERENCE

The SEC allows us to "incorporate by reference" information into this prospectus, which means that we can disclose important information to you by referring to those documents. We hereby "incorporate by reference" the documents listed below, which means that we are disclosing important information to you by referring you to those documents. The Registration Statement, including the exhibits, can be read at the SEC website referred to below under "Where You Can Find More Information." The information that we file later with the SEC will automatically update and in some cases supersede this information. Specifically, we incorporate by reference the following documents or information filed with the SEC (other than, in each case, documents or information deemed to have been furnished and not filed in accordance with SEC rules):

- [our Annual Report on Form 10-K for the fiscal year ended December 31, 2024, filed with the SEC on March 31, 2025](#)
- [our Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2025, filed with the SEC on May 8, 2025](#)
- our Current Reports on Form 8-K, filed with the SEC on [February 7, 2025](#), [May 1, 2025](#), [May 13, 2025](#), [May 16, 2025](#), [May 16, 2025](#) and [May 29, 2025](#); and
- [the description of our common stock in our Form 8-A12B, which was filed with the SEC on July 24, 2015](#) and any amendments or reports filed for the purpose of updating this description.

In addition, all documents subsequently filed by us pursuant to Sections 13(a), 13(c), 14, or 15(d) of the Exchange Act (not including any information furnished under Item 2.02, 7.01, or 9.01 of Form 8-K or any other information that is identified as "furnished" rather than filed, which information is not incorporated by reference herein) after the initial filing date of the registration statement of which this prospectus is a part and prior to the effectiveness of the registration statement, as well as subsequent to the effectiveness of such registration statement and prior to the filing of a post-effective amendment which indicates that all securities offered have been sold or which deregisters all securities then remaining unsold, shall be deemed to be incorporated by reference in the registration statement, of which this prospectus forms a part, and to be a part hereof from the date of filing of such documents.

Any statement contained in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes of the registration statement, of which this prospectus forms a part, to the extent that a statement contained herein, or in any other subsequently filed document that also is deemed to be incorporated by reference herein, modifies or supersedes such statement. Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of the registration statement, of which this prospectus forms a part.

We will provide without charge to each person, including any beneficial owner, to whom a prospectus is delivered, upon written or oral request of that person, a copy of any and all of the reports or documents that have been incorporated by reference in this prospectus but not delivered with this prospectus. Please direct requests to us at the following address:

Aqua Metals, Inc.
Attn: Investor Relations
5370 Kietzke Lane, Suite 201
Reno, Nevada 89511
(775) 446-4418

You may also access these filings on our website at www.aquametals.com. Except for the specific incorporated documents listed above, no information available on or through our website shall be deemed to be incorporated in this prospectus or the registration statement of which it forms a part.

WHERE YOU CAN FIND MORE INFORMATION

This prospectus is part of a registration statement we filed with the SEC and does not contain all the information set forth or incorporated by reference in the registration statement. Whenever a reference is made in this prospectus to any of our contracts, agreements, or other documents, the reference may not be complete and you should refer to the exhibits that are a part of the registration statement or the exhibits to the reports or other documents incorporated by reference into this prospectus for a copy of such contract, agreement, or other document. Because we are subject to the information and reporting requirements of the Exchange Act, we file annual, quarterly, and current reports, proxy statements, and other information with the SEC. The SEC maintains an Internet site that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC. Our SEC filings are available to the public over the Internet on the SEC's website at <http://www.sec.gov>.

AQUA METALS, INC.

2,000,000 Shares of Common Stock

PROSPECTUS

June , 2025

PART II**INFORMATION NOT REQUIRED IN PROSPECTUS****Item 13. Other Expenses of Issuance and Distribution**

The following table sets forth the estimated expenses to be borne by the registrant in connection with the issuance and distribution of the securities being registered hereby.

| Item | Amount to be paid |
|---------------------------------|--------------------------|
| SEC registration fee | \$ 245 |
| Accounting fees and expenses | 20,000 |
| Legal fees and expenses | 50,000 |
| Miscellaneous fees and expenses | 5,000 |
| Total | \$ 75,245 |

Item 14. Indemnification of Directors and Officers.

The Delaware General Corporation Law provides that corporations may include a provision in their certificate of incorporation relieving directors of monetary liability for breach of their fiduciary duty as directors, provided that such provision shall not eliminate or limit the liability of a director (i) for any breach of the director's duty of loyalty to the corporation or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) for unlawful payment of a dividend or unlawful stock purchase or redemption, or (iv) for any transaction from which the director derived an improper personal benefit. Our amended and restated certificate of incorporation provides that directors are not liable to us or our stockholders for monetary damages for breach of their fiduciary duty as directors to the fullest extent permitted by Delaware law. In addition to the foregoing, our amended and restated certificate of incorporation provides that we may indemnify directors and officers to the fullest extent permitted by law and we have entered into indemnification agreements with each of our directors and executive officers.

The above provisions in our amended and restated certificate of incorporation may have the effect of reducing the likelihood of derivative litigation against directors and may discourage or deter stockholders or management from bringing a lawsuit against directors for breach of their fiduciary duty, even though such an action, if successful, might otherwise have benefited us and our stockholders. However, we believe that the foregoing provisions are necessary to attract and retain qualified persons as directors.

Additionally, we maintain a general liability insurance policy that covers certain liabilities of our directors and officers arising out of claims based on acts or omissions in their capacities as directors or officers.

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to our directors, officers and controlling persons pursuant to the foregoing provisions, or otherwise, we have been advised that in the opinion of the SEC, such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable.

Item 15. Recent Sales of Unregistered Securities.

None

Item 16. Exhibits and Financial Statement Schedules.**(a) Exhibits**

The exhibits to the registration statement are listed in the Exhibit Index attached hereto and incorporated by reference herein.

(b) Financial Statement Schedules

No financial statement schedules are provided because the information called for is not required or is shown either in financial statements or the related notes.

Exhibit Index

| Number | Exhibit Description | Method of Filing |
|---------------|---|---|
| 3.1 | First Amended and Restated Certificate of Incorporation of the Registrant | Incorporated by reference to Exhibit 3.1 to the Company's Registration Statement on Form S-1 filed on June 9, 2015 |
| 3.2 | Certificate of Amendment of First Amended and Restated Certificate of Incorporation of the Registrant | Incorporated by reference to Exhibit 3.3 to the Company's Registration Statement on Form S-1 filed on June 25, 2015 |
| 3.3 | Certificate of Amendment to the First Amended and Restated Certificate of Incorporation | Incorporated by reference to Exhibit 3.4 to the Company's Quarterly Report on Form 10-Q filed on May 9, 2019 |
| 3.4 | Certificate of Amendment to the First Amended and Restated Certificate of Incorporation | Incorporated by reference to Exhibit 3.5 to the Company's Quarterly Report on Form 10-Q filed on July 21, 2022 |
| 3.5 | Certificate of Amendment of Amended and Restated Certificate of Incorporation | Incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed on November 1, 2024 |
| 3.6 | Third Amended and Restated Bylaws of the Registrant | Incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed on January 21, 2022 |
| 4.1 | Specimen Certificate representing shares of common stock of Registrant | Incorporated by reference to Exhibit 4.1 to the Company's Registration Statement on Form S-1 filed on July 20, 2015 |
| 4.2 | Underwriting Agreement dated as of July 18, 2023 between the Company and The Benchmark Company, LLC | Incorporated by reference to Exhibit 1.1 to the Company's Current Report on Form 8-K filed on July 19, 2023 |
| 4.3 | Warrant dated August 4, 2023 issued to Network 1 Financial Services, Inc. | Incorporated by reference to Exhibit 4.3 to the Company's Annual Report on Form 10-K filed on March 28, 2024 |
| 4.4 | Warrant dated July 21, 2023 issued to The Benchmark Company, LLC | Incorporated by reference to Exhibit 4.4 to the Company's Annual Report on Form 10-K filed on March 28, 2024 |

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| 4.5 | <u>Warrant dated January 22, 2019 issued to National Securities Corporation</u> | Incorporated by reference to Exhibit 4.10 to the Company's Annual Report on Form 10-K filed on February 28, 2019 |
| 4.6 | <u>Form of Non-Redeemable Common Stock Purchase Warrant issued to investors in May 2024 public offering</u> | Incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed on May 15, 2024 |
| 4.7 | <u>Form of Warrant Agency Agreement to be entered into between the Company and VStock Transfer, LLC</u> | Incorporated by reference to Exhibit 4.2 to the Company's Current Report on Form 8-K filed on May 15, 2024 |
| 4.8 | <u>Form of Underwriter Warrant to be issued to the Benchmark Company, LLC in May 2024 public offering</u> | Incorporated by reference to Exhibit 4.3 to the Company's Current Report on Form 8-K filed on May 15, 2024 |
| 4.9 | <u>Form of Common Stock Purchase Warrant issued to investors in December 2024 private placement</u> | Incorporated by reference to Exhibit 4.9 to the Company's Annual Report on Form 10-K filed on March 31, 2025 |
| 4.10 | <u>Description of Capital Stock</u> | Incorporated by reference to Exhibit 4.10 to the Company's Annual Report on Form 10-K filed on February 25, 2022 |
| 5.1 | <u>Opinion of Greenberg Traurig, LLP</u> | Filed herewith |
| 10.1* | <u>Form of Indemnification Agreement entered into by the Registrant with its Officers and Directors</u> | Incorporated by reference to Exhibit 10.1+ to the Company's Registration Statement on Form S-1 filed on June 9, 2015 |
| 10.2 | <u>Loan Agreement dated January 27, 2023 with Summit Investment Services, LLC</u> | Incorporated by reference to Exhibit 10.3 to the Company's Annual Report on Form 10-K filed on March 28, 2024 |
| 10.3* | <u>Aqua Metals, Inc. Officer and Director Share Purchase Plan</u> | Incorporated by reference to Exhibit 10.2* to the Company's Quarterly Report on Form 10-Q filed on November 9, 2017 |
| 10.4* | <u>Aqua Metals 2019 Stock Incentive Plan</u> | Incorporated by reference to Appendix A to the Company's Definitive Proxy Statement filed on March 4, 2019 |
| 10.5* | <u>Loan Agreement dated September 30, 2022 with Summit Investment Services, LLC</u> | Incorporated by reference to Exhibit 10.10 to the Company's Annual Report on Form 10-K filed on March 9, 2023 |
| 10.6* | <u>Amended and Restated Executive Employment Agreement dated August 7, 2023 between the Registrant and Stephen Cotton</u> | Incorporated by reference to Exhibit 10.11* to the Company's Annual Report on Form 10-K filed on March 28, 2024 |
| 10.7* | <u>Amended and Restated Executive Employment Agreement dated August 7, 2023 between the Registrant and Judd Merrill</u> | Incorporated by reference to Exhibit 10.12* to the Company's Annual Report on Form 10-K filed on March 28, 2024 |

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| | | |
|-------|--|---|
| 10.8* | Amended and Restated Executive Employment Agreement dated August 7, 2023 between the Registrant and Benjamin Taecker | Incorporated by reference to Exhibit 10.13* to the Company's Annual Report on Form 10-K filed on March 28, 2024 |
| 10.9* | Amended and Restated Aqua Metals 2022 Employee Stock Purchase Plan | Incorporated by reference to Appendix C to the Company's Definitive Proxy Statement filed on April 5, 2023 |
| 10.10 | Form of Secured Promissory Note issued in December 2024 Private Placement | Incorporated by reference to Exhibit 10.10 to the Company's Annual Report on Form 10-K filed on March 31, 2025 |
| 10.11 | Security Agreement dated December 18, 2024 between the Registrant and Purchasers of Notes in the December 2024 Private Placement | Incorporated by reference to Exhibit 10.11 to the Company's Annual Report on Form 10-K filed on March 31, 2025 |
| 10.12 | Purchase Agreement dated May 15, 2025 between the Registrant and Lincoln Park Capital Fund, LLC | Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on May 16, 2025 |
| 10.13 | Registration Rights Agreement dated May 15, 2025 between the Registrant and Lincoln Park Capital Fund, LLC | Incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on May 16, 2025 |
| 10.14 | Purchase and Sale Agreement and Joint Escrow Instructions dated May 11, 2025 between Aqua Metals Waltham Holding LLC and Trident Enterprises, Inc. | Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on May 16, 2025 |
| 21.1 | List of subsidiaries of Registrant | Incorporated by reference to Exhibit 21.1 to the Company's Annual Report on Form 10-K filed on March 28, 2024 |
| 23.1 | Consent of Forvis Mazars, LLP, Independent Registered Public Accounting Firm | Filed herewith |
| 23.2 | Consent of Greenberg Traurig, LLP (included within the opinion filed as Exhibit 5.1) | Filed herewith |
| 24.1 | Power of Attorney (included on the signature page to this registration statement) | |
| 107 | Filing Fee Table | Filed herewith |

* Indicates management compensatory plan, contract or arrangement.

Item 17. Undertakings

The undersigned registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

- i. To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933, as amended;
- ii. To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the SEC pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and
- iii. To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement.

provided, however, that paragraphs (1)(i), (ii) and (iii) above do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the SEC by the registrant pursuant to section 13 or section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

- (3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.
- (4) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser, each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A, shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use.
- (5) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.
- (6) Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-1 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Reno, Nevada on this 4th day of June 2025.

AQUA METALS, INC.

By: /s/ Stephen Cotton
Name: Stephen Cotton
Title: Chief Executive Officer

POWER OF ATTORNEY

Each person whose signature appears below hereby constitutes and appoints Stephen Cotton and Eric West, and each of them, as such person's true and lawful attorney-in-fact and agent, each with full powers of substitution and re-substitution, for such person and in such person's name, place and stead, in any and all capacities, to sign any or all amendments (including post effective amendments) to this Registration Statement, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact and agent full power and authority to do and perform each and every act and thing requisite or necessary to be done in and about the premises, as fully to all intents and purposes as such person might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent or his or her substitute or substitutes, may lawfully do or cause to be done by virtue thereof.

Pursuant to the requirements of the Securities Act of 1933, as amended, this Registration Statement has been signed by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

| Name | Title | Date |
|---|--|--------------|
| <u>/s/ Stephen Cotton</u> Stephen Cotton | Chief Executive Officer, President and Director (Principal Executive Officer) | June 4, 2025 |
| <u>/s/ Eric West</u> Eric West | Chief Financial Officer (Principal Financial and Accounting Officer) | June 4, 2025 |
| <u>/s/ Vincent L. DiVito</u> Vincent L. DiVito | Chairman of the Board of Directors | June 4, 2025 |
| <u>/s/ Eric Gangloff</u> Eric Gangloff | Director | June 4, 2025 |
| <u>/s/ Steve Henderson</u> Steve Henderson | Director | June 4, 2025 |

GREENBERG TRAURIG, LLP
18565 Jamboree Road, Suite 500
Irvine, California 92612

June 4, 2025

Aqua Metals, Inc.
5370 Kietzke Lane, Suite 201
Reno, Nevada 89511

Re: Registration Statement on Form S-1

Ladies and Gentlemen:

We have acted as counsel to Aqua Metals, Inc., a Delaware corporation (the “**Company**”), in connection with the Company’s registration of an aggregate of 2,000,000 shares of the Company’s common stock, par value \$0.001 per share (the “**Shares**”), under the Company’s registration statement on Form S-1, including the prospectus constituting a part thereof (the “**Registration Statement**”), being filed by the Company with the U.S. Securities and Exchange Commission (the “**Commission**”) under the Securities Act of 1933, as amended (the “**Securities Act**”). Of the Shares, (i) 227,175 Shares (the “**Commitment Shares**”) have been issued as commitment shares to Lincoln Park Capital Fund, LLC (“**Lincoln Park**”) pursuant to that certain Purchase Agreement, dated as of May 15, 2025 (the “**Purchase Agreement**”), by and between the Company and Lincoln Park, and (ii) 1,772,825 Shares (the “**Purchase Shares**”) are reserved for future issuance pursuant to the Purchase Agreement.

You have requested our opinion as to the matters set forth below in connection with the issuance of the Shares. For purposes of rendering this opinion, we have examined the Registration Statements, the Prospectus Supplement, forms of the First Amended and Restated Certificate of Incorporation, as further amended to date (“**Certificate of Incorporation**”), and Third Amended and Restated Bylaws of the Company currently in effect, the Purchase Agreement, and the resolutions of the Board of Directors of the Company relating to the authorization and issuance of the Shares, and the authorization and approval of the Purchase Agreement and the transactions contemplated thereby, certified by an officer of the Company (the “**Resolutions**”), and we have made such other investigations as we have deemed appropriate. We have examined and relied upon certificates of public officials and, as to certain matters of fact that are material to our opinion, we have also relied on a certificate of an officer of the Company. We have not independently verified the matters set forth in such certificates.

We have assumed (i) that the specific sale of the Purchase Shares will be duly authorized by the Board of Directors of the Company, a duly authorized committee thereof or a person or body pursuant to an authorization granted in accordance with Section 152 of the General Corporation Law of the State of Delaware (the “**DGCL**”) and (ii) that the sale and issuance of the Shares will not exceed (a) the authorized number of shares of Common Stock set forth in the Certificate of Incorporation, and (b) the aggregate amount of Shares authorized for offer, sale, and issuance by the Resolutions. We express no opinion herein as to the laws of any state or jurisdiction other than the DGCL and the federal laws of the United States of America.

Based upon and subject to the foregoing, we are of the opinion that (i) the Commitment Shares have been duly authorized and validly issued and are fully paid and nonassessable; and (ii) the Purchase Shares have been duly authorized, and, when issued and sold as contemplated in the Registration Statement and the Purchase Agreement against payment therefor in accordance with the Purchase Agreement, will be validly issued, fully paid and nonassessable.

We consent to the reference to our firm under the caption “Legal Matters” in the Registration Statement. This opinion is expressed as of the date hereof, and we disclaim any responsibility to advise you of any changes in the facts stated or assumed herein or any changes in applicable law.

Very truly yours,

/s/ GREENBERG TRAURIG, LLP

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in this Registration Statement on Form S-1 of Aqua Metals, Inc. of our report dated March 31, 2025, with respect to the consolidated financial statements of Aqua Metals, Inc., included in the Annual Report on Form 10-K of Aqua Metals, Inc. for the year ended December 31, 2024. We also consent to the reference to our firm under the caption "Experts" in the Registration Statement. Our report contains an explanatory paragraph describing conditions that raise substantial doubt about Aqua Metals Inc.'s ability to continue as a going concern. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

/s/ Forvis Mazars, LLP

New York, New York
June 4, 2025

Calculation of Filing Fee Tables

Form S-1
(Form Type)

Aqua Metals, Inc.
(Exact Name of Registrant as Specified in its Charter)

Table 1: Newly Registered Securities

| | Security Type | Security Class Title | Fee Calculation Rule | Amount Registered (a) | Proposed Maximum Offering Price Per Unit (b) | Maximum Aggregate Offering Price (b) | Fee Rate | Amount of Registration Fee |
|-----------------|-------------------------------|----------------------|----------------------|-----------------------|--|--------------------------------------|--------------------------|----------------------------|
| Fees to Be Paid | Equity | Common stock | 457(c) | 2,000,000 | \$0.80 | \$1,600,000 | \$153.10 per \$1,000,000 | \$244.96 |
| | Total Offering Amounts | | | | | \$1,600,000 | | \$244.96 |
| | Total Fee Offsets | | | | | | | -- |
| | Net Fee Due | | | | | | | \$244.96 |

(a) In accordance with Rule 416 under the Securities Act of 1933, as amended (the “Securities Act”), this registration statement shall be deemed to cover an indeterminate number of additional shares of Common Stock to be offered or issued from stock splits, stock dividends or similar transactions.

(b) Estimated solely for purposes of calculating the registration fee in accordance with Rule 457(c) under the Securities Act and based upon the average of the high and low sales prices of a share of common stock as reported on the Nasdaq Capital Market on June 3, 2025.