

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

FORM 10-K

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

For the fiscal year ended December 31, 2016

or

TRANSITION REPORT UNDER SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from to

Commission file number: 001-37515

Aqua Metals, Inc.

(Exact name of registrant as specified in its charter)

Delaware

(State or Other Jurisdiction of  
Incorporation or Organization)

47-1169572

(I.R.S. Employer Identification  
Number)

1010 Atlantic Avenue  
Alameda, California 94501

(Address of principal executive offices)

(510) 479-7635

(Registrant's telephone number, including area code)

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

Name of Each Exchange on Which Registered:

Common Stock

The Nasdaq Capital Market

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

None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes  No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Exchange Act. Yes  No

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

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

Indicate by check mark if disclosure of delinquent filers in response to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of the registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

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

Large accelerated filer

Accelerated filer

Non-accelerated filer

Smaller reporting company

(Do not check if a smaller reporting company)

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act)

Yes  No

State the aggregate market value of voting and non-voting common equity held by non-affiliates computed by reference to the price at which the common equity was last sold, or the average bid and asked price of such common equity, as of the last business day of the registrant's most recently completed second fiscal quarter: \$143,148,402.

The number of shares of the registrant's common stock outstanding as of March 1, 2017 was 19,337,164.

**DOCUMENTS INCORPORATED BY REFERENCE**

Portions of the registrant's definitive proxy statement for the registrant's 2016 Annual Meeting of Stockholders to be filed pursuant to Regulation 14A within 120 days of the registrant's year ended December 31, 2016 are incorporated herein by reference into Part III of this Annual Report on Form 10-K.

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## CAUTIONARY NOTICE

This annual report on Form 10-K contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. Those forward-looking statements include our expectations, beliefs, intentions and strategies regarding the future. Such forward-looking statements relate to, among other things,

- our future financial and operating results;
- 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 operate our AquaRefining process on a commercial scale;
- our ability to realize the expected benefits of our strategic partnership with Johnson Controls and Interstate Battery;
- our ability to procure lead acid batteries, or LABs, in sufficient quantities at competitive prices;
- the success of our first LAB recycling facility near Reno, Nevada;
- the availability of working capital to pursue the development of additional recycling centers;
- the timing and success of our development of additional recycling facilities;
- 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 have our technology solutions gain market acceptance;
- 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.

These and other factors that may affect our financial results are discussed more fully in “Risk Factors” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations” included in this report. Market data used throughout this report is based on published third party reports or the good faith estimates of management, which estimates are presumably based upon their review of internal surveys, independent industry publications and other publicly available information. Although we believe that such sources are reliable, we do not guarantee the accuracy or completeness of this information, and we have not independently verified such information. We caution readers not to place undue reliance on any forward-looking statements. We do not undertake, and specifically disclaim any obligation, to update or revise such statements to reflect new circumstances or unanticipated events as they occur, and we urge readers to review and consider disclosures we make in this and other reports that discuss factors germane to our business. See in particular our reports on Forms 10-K, 10-Q, and 8-K subsequently filed from time to time with the Securities and Exchange Commission.

## PART I

### Item 1. Business

#### Background

We were formed as a Delaware corporation on June 20, 2014 for the purpose of engaging in the business of recycling lead through a novel, proprietary and patent-pending process that we developed and named “AquaRefining”. Since our formation, we have focused our efforts on the development and testing of our AquaRefining process, the development of our business plan, the raise of our present working capital and the development of our initial lead acid battery, or LAB, recycling facility in the Tahoe Regional Industrial Center, McCarran, Nevada (“TRIC”).

We have completed the development of our initial LAB recycling facility at TRIC and commenced the commercial scale production of recycled lead during January 2017. We expect TRIC to achieve a production rate of 120 metric tons of recycled lead per day during 2017. Unless otherwise indicated, the terms “Aqua Metals”, “Company”, “we,” “us,” and “our” refer to Aqua Metals, Inc. and its wholly-owned subsidiaries.

All references in this report to “ton” or “tonne” refer to a metric ton, which is equal to approximately 2,204.6 pounds.

Since our organization in 2014, we have engaged in several capital raising transactions, which are summarized below in “Management’s Discussion and Analysis of Financial Condition and Results of Operations - General.”

#### Overview

Aqua Metals is reinventing lead recycling with its patent-pending AquaRefining™ technology. Unlike smelting, AquaRefining is a room temperature, water-based process that is fundamentally non-polluting. It is deployed as a factory built modular system which allows the lead-acid battery industry to simultaneously improve environmental impact and scale production to meet rapidly growing demand. Aqua Metals is based in Alameda, California, and has built its first recycling facility in Nevada's Tahoe Reno Industrial Complex. Lead is a globally traded commodity with a worldwide market value in excess of \$20 billion. Lead acid batteries (LABs) are the primary use of all lead produced in the world. Because the chemical properties of lead allow it to be recycled and reused indefinitely, LABs are also the dominant source of world lead production. As such, LABs are almost 100% recycled for purposes of capturing the lead contained therein for re-use. We believe that our proprietary AquaRefining process will provide for the recycling of LABs and the production of a pure grade lead with a significantly lower cost of production, and with fewer environmental and regulatory issues, than conventional methods of lead production.

In recent years, many lead-zinc mines have become exhausted and recycled lead has become increasingly important to LAB production. Recycled lead surpassed mined lead in the 1990s and now represents more than 60% of the lead content in new LABs. Whether it is produced from lead ore or recycled LABs, lead has historically been produced by smelting. Smelting is a high-temperature, metallurgic/chemical reduction, somewhat inefficient, energy intensive and often a highly pollutive process. As a consequence of its environmental and health issues, lead smelting has become increasingly regulated in many countries. In the US, regulatory non-compliance has forced the closure of large lead smelters in Vernon, California, Frisco, Texas and Herculaneum, Missouri over the last four years. Herculaneum was the last remaining primary lead-mine operation (i.e., smelting lead from concentrates/ore) in the US, though secondary lead smelters that process recycled lead continue to operate in the US. In response to increasing environmental regulation over the past two decades, there has been an expansion of LAB smelting capacity in Mexico and other less regulated countries. The resulting transportation of used LABs from where they originate in the US to smelters in Mexico, South Korea, the Philippines and elsewhere is an increasingly significant logistical and global environmental cost.

AquaRefining uses bio-degradable aqueous solvent and a novel ambient temperature electro-chemical process to produce pure lead (i.e., higher than 99.99% purity). We believe that AquaRefining can significantly reduce production costs as compared with alternative methods of producing pure lead. This cost reduction is partly because our novel electro-chemical process requires less energy than the endothermic high temperature (1400°C) chemical reduction that is at the core of smelting. It is also partly because our process does not generate toxic high temperature dust and gas, or the lead containing slag and dross that are unavoidable byproducts of smelting, and which require capital and energy intensive processes to meet environmental compliance. We also have the potential to locate multiple smaller recycling facilities in areas closer to the source of used LABs, thereby reducing transport costs and supply chain bottlenecks. On this basis, we believe that it significantly reduces environmental emissions, health concerns and permitting needs as compared with lead smelting. We believe that the combined advantages offered by AquaRefining represent a potential step change in lead recycling technology, one that can deliver advantages in economics, footprint and logistics while greatly reducing the environmental impact of lead recycling.

The modular nature of AquaRefining makes it possible to start LAB recycling at a much smaller scale than is possible with smelters, thereby significantly reducing the investment risk associated with building a lead production facility. Our plan is to actively explore distributed recycling in the US beginning with our initial recycling operation near Reno, Nevada. This plan is based on our belief that Reno has become a significant hub of the West Coast's LAB distribution infrastructure and yet is very poorly served by the LAB recycling industry. From our initial recycling facility near Reno, we intend to expand first throughout the US and then overseas. We seek to develop additional recycling facilities, including facilities that we will own directly and facilities to be developed in association with third parties through joint ventures, licensing and direct sales.

## **Our Markets**

### **The Lead Market**

Lead is a globally traded commodity and the essential component of over 95% of the world's rechargeable batteries. Lead is traded primarily on the London Metals Exchange, or LME, although the smaller Shanghai Metals Exchange (SHME) also trades the element. Conventionally in the industry, there are two separate groupings of lead: i) primary lead which refers to lead produced at smelters that use mined lead concentrates (generally lead sulfide) as their primary feedstock, and ii) secondary lead which refers to lead smelters utilizing LABs as their main feed source.

Originally, the majority of the lead used in batteries was sourced from primary smelters but in recent decades, secondary lead has grown to become the dominate product used. Industry data shows that six million metric tons of lead was produced in 1995 of which approximately 45% was primary and 55% was from secondary sources. Twenty years later, by 2015, global lead production had increased to approximately 11 million metric tons, of which more than 65% was secondary. Importantly, primary lead production had increased only marginally during this period. This marginal increase is because lead-zinc mine deposits are being depleted across the globe. As such, an increasing quantity of primary lead is now the predominate byproduct of zinc mining.

In 2005, secondary lead traded on the LME in a range of \$1,000 to \$1,200 per metric ton. During 2015 and 2016, secondary lead traded in a range of \$1,554 to \$2,456 per metric ton.

As noted above, although lead is traded as a commodity on the LME/SHME, the major sales are the sales directly between producers and users. The LME daily price is used as the benchmark in forming the basis of physical trades, forward contracts and hedge strategies for both primary and secondary lead. Based on market knowledge with buyers of lead in the US and Global lead markets, different grades (termed alloys) of lead are traded at a premium to the LME price. (Note: Lead by-products can trade at a discount to the LME).

### **Lead Smelting**

Currently, smelters produce virtually all the world's mined and recycled lead. Smelting is an inefficient, energy intensive and often highly polluting process. At its core, smelting is a high temperature (excess of 10400°C) metallurgical reduction process in which lead compounds are heated and reacted with various reducing agents to remove the oxygen, sulfur, and other impurities. The process leaves behind a bullion lead and waste slag. The chemical reactions are generally endothermic, which means that heat must be continually supplied to replace the energy consumed by the reduction processes. In smelting, depending upon the operation 0.5% to 5% of the lead is lost in the "slag", with the resultant lead bullion containing both wanted and unwanted impurities. Importantly, smelting is only cost effective at large scale, typically more than 200 metric tons of lead per day.

In addition to the high costs and inefficiencies associated with smelting, it can generate large volumes of toxic solid, liquid, particulate and gaseous waste. In developed countries, there is both increased environmental regulation and enforcement of such, including monitoring of permissible blood lead levels in employees and local populations. These regulations and the increasing enforcement have made it more expensive to operate smelters. According to a report titled "Hazardous Trade?" produced by the Secretariat of the Commission for Environmental Cooperation in 2013, this has led to a decline of lead smelters in the U.S., an expansion of smelting operations in Mexico and a resultant increase in the export of used LABs from the U.S. followed by the re-import of recycled lead. This trade is believed to be largely driven by the lower costs related to the less stringent environmental standards and enforcement in Mexico. For the foregoing reasons, we believe that lead smelting facilities are increasingly located in poorly regulated areas remote from both the source of used LABs and the demand for lead. We believe that the remote location of smelting increases the transport costs to the production of recycled lead.

### **Lead Acid Batteries**

Although the LAB is one of the earliest battery technology, in terms of capacity deployed and manufacturing capacity it dominates the battery industry. Historically, the largest market for LABs has been as starter batteries for vehicles. However, with the increasing electrical load on modern vehicles and the adoption of "Stop-Start" conventional 12V "starter batteries" are evolving into more capable and higher value products. At the same time, large new markets such as Cell Tower, Data Center and Industrial back-up are adding to demand. Consequently, existing LAB production facilities are being expanded and new facilities are being built.

According to CHR Metals, total lead output in 2017 will be 20% higher than it was in 2012. Similarly, articles published in the Financial Times and the Wall Street Journal support continued growth in demand for lead for at least the next 20 years as car ownership increases rapidly in developing nations. The battery market for electric e-bikes and scooters in China is one example of a recent and rapidly growing application for LABs. This has grown from minimal roots in 2005 to accounting for over 15% of LAB production in 2012. There are now over 150 million e-bikes and scooters on the road in China, and nearly all of them are powered by LABs. We believe that grid storage and other energy storage applications linked to renewable energy (solar and wind) will also generate increased demand for LABs, where low cost, safety and reliability will make them attractive options.

The increase in LAB manufacturing in general and particularly in China, India and Southeast Asia, has increased demand for lead, putting pressure on global recycling networks to meet this demand. At present, we believe that many of the LAB recycling performed outside of the U.S., Canada, the EU, Japan, and Australia is carried out in outdated facilities with poor environmental standards and insufficient enforcement. China, India, Pakistan and South America appear to be moving toward tougher regulation and enforcement. We believe that this will drive a demand in foreign markets for more less polluting LAB recycling processes.

## **Our Business Model**

The market for lead is global in scale but local in nature and execution, with large differences in local regulation, custom and practice. In some regions, it is highly regulated, and in others it is not. Consequently, we have developed our business model to commercialize our technology optimally across multiple countries.

In the US and similarly regulated countries, our plan is to build and operate LAB recycling facilities, both directly and in association with third parties through joint ventures, licensing and direct sales. As an example, on February 7, 2017, we entered into a series of agreements with Johnson Controls Inc., (Johnson Controls), pursuant to which, among other things, we agreed to work with Johnson Controls on the development of a program for the installation of new greenfield builds and conversion of Johnson Controls and certain strategic partners of Johnson Controls' existing lead smelters throughout North America, China and Europe to a lead recycling process utilizing our proprietary and patent-pending AquaRefining technology and equipment, know-how and services.

Through our relationships with Battery Systems Inc., Interstate Battery System International, Inc., and Johnson Controls, we believe we are now able to pursue our expansion of our directly-owned recycling facilities in the U.S. subject to our receipt of necessary funding. Our plan is to locate our facilities close to the regional supplies of used LABs that we have secured with these relationships. Additionally, through the supply and off-take relationships that we have established with Battery Systems, Inc., Interstate Battery and Johnson Controls, we believe we are better positioned to acquire the necessary funding, including potential forms of non-diluting financing, in order to finance our next facilities.

Lead recycling is subject to a variety of domestic and international regulations related to hazardous materials, emissions, employee safety and other matters. While our operations will be subject to these regulations, we believe that one of our potential advantages will be our ability to conduct lead recycling operations with less regulatory cost and burden than smelting operators. One of our key objectives will be to educate regulators and the public as to the environmental benefits of AquaRefining. We believe we have the potential to develop a business model that offers both strong economics and the opportunity to conduct in a socially responsible manner an important recycling activity that to date has been conducted in an inefficient, energy intensive and often highly polluting manner.

## **AquaRefining Process**

We developed AquaRefining to be a less expensive, cleaner and modular alternative to smelting. Our process has two key elements, both of which are integral to our pending-patent application. The first is our use of a proprietary, non-toxic solvent that dissolves lead compounds. The second is a proprietary electro-chemical process and electrolyzer that converts the dissolved lead compounds into pure, primary grade lead on a fully automated basis.

Similar to conventional LAB recycling, our AquaRefining process begins with the crushing of used LABs and the separation of the metallic lead, active material (lead compounds), sulfuric acid and plastic for recycling. The active material is dissolved in our solvent. The primary lead is then stripped from the solvent using our patent pending and fully automated process allowing the solvent to be reused continuously and indefinitely.

Our AquaRefining process generates the following outputs:

- Lead and lead-based products, including high purity lead, lead alloys and lead compounds which are primarily intended for the LAB industry. We are also exploring higher value lead based products which may offer performance and life-cycle benefits to the LAB industry;
- Recovered plastic chips, intended for re-use in the manufacture of battery casings and other plastic products; and
- Sodium sulfate and sulfuric acid.

We expect to derive revenue primarily from the sale of lead based products, with additional revenue derived from the sale of cleaned plastic chips and sulfuric acid expected to be modest.

A significant benefit of our AquaRefining process is that it is capable of producing high purity (primary grade) lead, without the need for the highly energy intensive and wasteful thermal processing that is required by conventional smelted lead. However, selling primary grade lead is performed directly with battery companies, which requires a review and testing process. We expect that this approval process will take at least 12 months and there is no guarantee of success. For this reason, we have not included the premiums available through the sale of primary lead in our financial modeling or cash flow planning.

Another significant benefit of our process is that we designed the equipment used in the process to be manufactured on a purpose-built production line in standard sized modules. This is not possible with the smelting process, as smelters need to be constructed on site. This gives us the ability to provide AquaRefining systems with capacities ranging from four metric tons per day to 400 metric tons per day or more all based on our standard factory produced module.

#### **Our First Recycling Facility: McCarran, Nevada**

We have developed our initial LAB recycling facility near Reno, Nevada. In May 2015, we purchased 11.73 acres of undeveloped land for the purchase price of \$1.0 million.

In August 2015, we commenced construction of a 136,750 square foot LAB recycling facility at our TRIC property. The building phase was completed by August 2016 at which time, we started commissioning activities. We produced our first AquaRefined lead in October 2016 and we verified that the lead produced by AquaRefining is over 99.99 percent pure.

During late 2016, we implemented upgrades to the facility that have resulted in an initial production capacity of 120 metric tons per day of lead based products. Our facility is designed to accommodate additional AquaRefining modules to support expansion to 160 tonnes of lead products per day.

We commenced initial battery breaking during December 2016 and progressed to regular single shift operation of the battery breaker in January 2017.

In connection with the permitting of our TRIC facility, the Nevada state environmental regulators determined that our AquaRefining process is not subject to National Emissions Standards for Hazardous Air Pollutants, or NESHAP rules. NESHAP is the federal emissions standards set by the United States Environmental Protection Agency, or EPA, which apply to conventional smelter-based recycling facilities. We believe this is an important precedent which could substantially reduce both the time required to obtain permits and increase the options for locating additional facilities for both us and our potential licensees.

#### **Supply, Off-Take and Other Strategic Agreements**

We have entered into a series of agreements and relationships providing for our supply of LABs and the off-take of the recycled lead we produce. As described in more detail below, Interstate Battery has agreed to supply us with LABs pursuant to a written agreement entered into in May 2016. In addition, we have established an important relationship Battery Systems, Inc., an independent LAB distributor with a distribution facility located next to our TRIC facility, for Battery Systems' supply of used LABS to us. We have also entered into an agreement with Johnson Controls pursuant to which Johnson Controls has agreed to purchase from us, recycled lead on both a tolling (fee to convert used LABs to recycled materials) and merchanting (sale of recycled materials) basis. Consequently, we believe that we have secured an ample supply of used LABs and demand for our lead based products for the foreseeable future. In addition, we entered into a separate agreement with Johnson Controls pursuant to which we agreed to work with Johnson Controls on the development of a program for the installation of new greenfield builds and conversion of Johnson Controls and certain strategic partners of Johnson Controls existing lead smelters throughout North America, China and Europe to a lead recycling process utilizing our proprietary and patent-pending AquaRefining technology and equipment, know-how and services.

## **Johnson Control Agreements**

*Equipment Supply Agreement.* We entered into an equipment supply agreement dated February 7, 2017 with Johnson Controls pursuant to which we agreed to collaborate on the development of a program for the installation of new greenfield builds and conversion of existing Johnson Controls and certain strategic partners of Johnson Controls' existing lead smelters to a lead recycling process utilizing our proprietary and patent-pending AquaRefining technology and equipment, know-how and services. We have agreed with Johnson Controls to develop an appropriate program blueprint, and enter into a definitive development program agreement reflecting that blueprint, pursuant to which we will provide to Johnson Controls and certain strategic partners of Johnson Controls, by way of licensing or sale, the following products and services in the regions of North America, Europe and China:

- AquaRefining technology and the related equipment, engineering and systems integration support sufficient to convert or retrofit existing smelter-based operations and/or the construction of new Johnson Controls and Johnson Controls' strategic partners' battery recycling facilities based on our AquaRefining technology;
- Training, evaluation and certification of Johnson Controls' operations personnel sufficient for such personnel to competently operate our AquaRefining technology and equipment; and
- Ongoing technical support, maintenance services and warranties.

We will provide the above services and equipment to Johnson Controls on a serviced license basis, including Johnson Controls' ongoing licensing fees payable to us based on the operational capacity of the AquaRefining equipment supplied by us. We have agreed not to license our AquaRefining technology and equipment to third parties in the aforementioned regions until such as we and Johnson Controls have agreed on certain matters relating to the initial conversion of a Johnson Controls facility. The equipment supply agreement may be terminated by either party upon 60 days' prior written notice if the parties have not entered into the blueprint agreement by a mutually agreed date. The equipment supply agreement allows each party the right to seek early termination based on a material breach by the other party that goes uncorrected for 30 days following notice of breach. The equipment supply agreement contains representations, warranties and indemnities that are customary to commercial agreements of this nature.

*Tolling/Lead Purchase Agreement.* We have entered into a tolling/lead purchase agreement dated February 7, 2017 with Johnson Controls pursuant to which we have agreed to sell to Johnson Controls, and Johnson Controls has agreed to purchase from us, recycled lead on both a tolling (fee to convert used LABs to recycled materials) and merchanting (sale of recycled materials) basis.

Pursuant to the agreement, Johnson Controls has agreed to purchase from us, and we have agreed to sell to Johnson Controls, up to 100% of the recycled lead we produce for automotive applications, other than by way of tolling arrangements, on a monthly basis, unless we receive notice from Johnson Controls six months advance of its intention to purchase less than 100% of our output in any given month. Our agreement with Johnson Controls excludes, and we are free to manufacture and sell to third parties, recycled lead for non-automotive uses, such as stationery batteries for back-up power systems for Internet/Cloud applications or grid scale storage applications.

We have also agreed to provide tolling services to Johnson Controls whereby Johnson Controls will deliver to us used lead acid batteries, or LABs, and we will recycle the used LABs and return the recycled lead to Johnson Controls for a fee. Johnson Controls has agreed to send to us for tolling, and we have agreed to toll for Johnson Controls, used LABs representing a significant allocation of the production capacity of our initial recycling facility in McCarran, Nevada.

The tolling/lead purchase agreement has a minimum term of five years and upon the expiration of the initial term the agreement extends each day for another three years. Either party may elect to terminate the agreement for any reason after the second anniversary of the agreement, which termination shall be effective on the third anniversary of the notice of termination. Either party may terminate the agreement on ten days' prior written notice of breach that goes uncorrected during the notice period. The tolling/lead purchase agreement contains representations, warranties and indemnities that are customary to commercial agreements of this nature.

## **Interstate Battery Partnership**

On May 18, 2016, we entered into a supply agreement with Interstate Battery pursuant to which Interstate Battery agreed to sell to us, and we agreed to buy from Interstate Battery, used LABs. Interstate Battery will sell us used LABs on a cost-plus basis and the agreement subjects us and Interstate Battery to certain minimum purchase and sale requirements. We have granted Interstate Battery limited rights of first refusal to supply our future AquaRefineries. Our agreement with Interstate Battery is for an initial term of 18 months and will be subject to automatic renewals thereafter unless either party elects to terminate the agreement. The agreement allows each party the right to seek early termination based on certain commercial contingencies. The supply agreement contains representations, warranties and indemnities that are customary to commercial agreements of this nature.

## Competition

As of the date of this report, we are not aware of any commercially viable alternative to smelting for LAB recycling in operation, except for one variation on smelting that uses a thermal lance to provide the heat. This process, known as Isamelt, has some limited advantages over smelting but has not been widely taken up, although it has been in existence for over 20 years. In addition, several years ago, Engitec Technologies S.p.A. developed an electro-refining process as an alternative to smelting for lead ore. The process is known as the Flubor process and uses fluoboric acid as an electrolyte. We believe The Doe Run Company, a US-based operator of lead smelters, evaluated this process for the production of primary lead, however, to our knowledge, the Flubor process has never been used in commercial lead recycling by The Doe Run Company or anyone else.

We believe that our primary competition in the production of lead may come from operators of existing smelters and other parties heavily invested in the existing supply chain for smelting, both of which may resist the change presented by AquaRefining. Competition from such incumbents may come in the form of price competition for lead produced, however to the extent we are successful in being a low cost producer of higher quality lead coupled with continued growth of our licensing and partnership efforts, we should be able to compete effectively.

Another area where incumbents may seek to compete is in controlling access to used LABs. The market for used LABs is made up of the members of the LAB reverse supply chains, including auto repair shops, auto parts stores and auto dealers, LAB manufacturers who operate their own smelting operations and third parties who engage in the purchase and sale of used LABs. We believe that some LAB manufacturers who maintain their own smelting operations may feel significantly threatened by our AquaRefining process. Such parties may attempt to restrict our access to used LABs; however, we believe these LAB manufacturers only control approximately 50% of the market for used LABs, leaving us with significant access to LABs even if these parties do attempt to interfere. We have assumed at least some level of interference by incumbents, however, as described above, we have contracted with Interstate Battery and Johnson Controls for their supply of used LABs to us. We are also in discussions with additional potential suppliers of used LABs. On the basis of these agreements and discussions, we do not view access to used LABs be a significant risk to our LAB recycling operations.

While we had assumed that smelters might be resistant, at least at first, to AquaRefining, we have received preliminary inquiries from a number of existing operators of lead smelters who are interested in augmenting their existing capacity or replacing it entirely with our AquaRefining modules. However, our business plan is not dependent or even focused on the acceptance of our process by lead smelters. We still intend to initially focus on operating our AquaRefining facilities directly and working with our first licensee, Johnson Controls, to implement Aqua Refining in a nominated lead smelting facility followed by deployments with additional 3<sup>rd</sup> parties to propagate AquaRefining as the technology of choice for recycling LABs.

We do not expect to experience significant competition in connection with our sale of lead. We believe that the market for lead is established, fluid and effective; and like the markets for other natural resources, such as oil, gas, gold, silver, etc., we do not expect to encounter any issues, conditions or qualifications for the sale of our lead production at prevailing market prices set by the LME. The vertically integrated LAB manufacturers who conduct smelting operations also are buyers of lead from third parties. While these LAB manufacturers may feel threatened by our AquaRefining process, we believe that they will still purchase lead from us if we are able to offer it at the price we anticipate. Notwithstanding this, we believe that the vertically integrated LAB manufacturers account for only 50% of the demand for lead production, leaving a sizable amount of the lead market in the hands of purchasers who we believe will not be reluctant to purchase lead from us.

## Intellectual Property Rights

We regard the protection of our technologies and intellectual property rights as an important element of our business operations and crucial to our success. We endeavor to generate and protect our intellectual property assets through a series of patents, trademarks, internal and external policy and procedures and contractual provisions.

## 1. Patent Portfolio

We endeavor to develop a patent portfolio that covers our key technology and also carve out additional white space with the goal of providing us with a broad scope of priority in our marketplace.

Set forth below is a summary of our patent portfolio:

- In November 2013, we filed with the US Patent and Trademark Office (“USPTO”) a provisional patent application covering multiple aspects of our AquaRefining process, including aspects of our proprietary water-based solvent and electrolyzer.
- In November 2014, our provisional patent application was converted into an International non-provisional patent application which was filed in accordance with the Patent Cooperation Treaty (“PCT”) and contained 35 claims. The claims seek patent protection for our AquaRefining process, starting with the dissolution of the lead compounds recovered from a used LAB, the solvents used and the range of chemical compositions under which they are effective. The claims also extend to novel aspects of the electrochemical apparatus and a range of electrochemical parameters. Finally, the claims seek patent protection for the type and composition of the electrodes used, the form and quality of the lead produced and methods of removing the lead from the electrodes.
- In May 2015, we filed an additional international non-provisional patent application with the USPTO in accordance with the PCT which contained 39 claims. These claims seek to provide additional, complementary and alternative aspects of the November 2014 filing. The International Search Report/Written Opinion indicated that all examined claims were novel and had industrial applicability, but lacked inventive step. A response and amendment was filed addressing the alleged lack of inventive step.
- In May 2015, we filed an additional six provisional patent applications with the USPTO containing a total of 54 claims. These provisional filings seek to extend our patent protection in our core process technology and seek patent coverage for areas including ancillary processes, electrolyte and water recovery, the form and uses of the lead produced and applications of our process to materials other than lead.
- In May 2016, four international patent applications were filed in accordance with the PCT, having total of 250 claims, and claiming priority to the additional six provisional patent applications described above. All four international applications are currently pending.
- In December of 2015, we filed an additional US non-provisional patent application. This patent filing seeks to extend our patent protection in our core process technology and seeks patent coverage for alternative process parameters in our AquaRefining process. In December 2016, we filed an additional international non-provisional patent application with the USPTO in accordance with the PCT which contained 25 claims, and which claimed priority to the US non-provisional patent application.
- In January 2017, we filed a provisional patent application with the USPTO seeking to cover various aspects of electrode management, and in February 2017, a further provisional patent application was filed to cover additional aspects of continuous lead plating.

We intend to continue to prepare and file domestic and foreign non-provisional patent applications covering the claims in our provisional and non-provisional patent applications.

All of the above-described patent application are pending and no U.S. or foreign patents have issued to date. There can be no assurance that any patents will issue from any of our current or any future applications. Also, any patents that may issue may not survive a legal challenge to their scope, validity or enforceability, or provide significant protection for us. Competitors may work around our patents so they are not infringing. Our patent portfolio and our existing policy and procedures safeguarding our trade secrets nonetheless may face challenges so that our competitors can copy our AquaRefining process.

## 2. Trademark Portfolio:

We have filed for trademark registration in the US of the following trademarks:

- AQUA METALS
- AQUAREFINING
- AQUAREFINE
- AquaRefining,” “AquaRefinery” and “AquaRefine”

We also intend to file foreign trademark applications for the above marks as well.

## 3. Trade Secrets and Contract Protection

We have developed our internal policy and procedures in safeguarding our trade secrets and proprietary information. Our procedures generally require our employees, consultants and advisors to enter into confidentiality agreements. These agreements provide that all confidential information developed or made known to the individual during the course of the individual’s relationship with us is to be kept confidential and not disclosed to third parties except under specific circumstances. In the case of our employees, the agreements provide that all of the technology that is conceived by the individual during the course of employment is our exclusive property. The development of our technology and many of our processes are dependent upon the knowledge, experience and skills of key scientific and technical personnel.

## Government Regulation

Our operations in the United States will be subject to the Federal, state and local environmental, health and safety laws applicable to the reclamation of LABs. While the lead reclamation process itself is generally not subject to Federal permitting requirements, depending on how any particular operation is structured, our facilities may have to obtain environmental permits or approvals from Federal, state or local regulators to operate, including permits or regulatory approvals related to air emissions, water discharges, waste management, and the storage of LABs on-site should that become necessary. We may face opposition from local residents or public interest groups to the installation and operation of our facilities. Failure to secure (or significant delays in securing) the necessary approvals could prevent us from pursuing some of our planned operations and adversely affect our business, financial results and growth prospects.

In addition to permitting requirements, our operations are subject to environmental health, safety and transportation laws and regulations that govern the management of and exposure to hazardous materials such as the lead and acids involved in LAB reclamation. These include hazard communication and other occupational safety requirements for employees, which may mandate industrial hygiene monitoring of employees for potential exposure to lead. Failure to comply with these requirements could subject our business to significant penalties (civil or criminal) and other sanctions that could adversely affect our business. Changes to these regulatory requirements in the future could also increase our costs, require changes in or cessation of certain activities, and adversely affect the business.

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

As our business expands outside of the United States, our operations will be subject to the environmental, health and safety laws of the countries where we do business, including permitting and compliance requirements that address the similar risks as do the laws in the United States, as well as international legal requirements such as those applicable to the transportation of hazardous materials. Depending on the country or region, these laws could be as stringent as those in the US, or they could be less stringent or not as strictly enforced. In some countries in which we are interested in expanding our business, such as Mexico and China, the relevant environmental regulatory and enforcement frameworks are in flux and subject to change. Therefore, while compliance with these requirements will cause our business to incur costs, and failure to comply with these requirements could adversely affect our business, it is difficult to evaluate such potential costs or adverse impacts until such time as we decide to initiate operations in particular countries outside the United States.

## **Employees**

As of the date of this report, we employ 67 people on a full-time basis. We expect to hire additional employees in 2017 in connection with the operation of our TRIC facility, planning additional facilities and the start of licensing activities.

## **Available Information**

Our website is located at [www.aquametals.com](http://www.aquametals.com) and our investor relations website is located at [www.investors.aquametals.com/](http://www.investors.aquametals.com/). Copies of our Annual Report on Form 10-K, Quarterly Report on Form 10-Q, Current Reports on Form 8-K, and amendments to these reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, or the Exchange Act, are available, free of charge, on our investor relations website as soon as reasonably practicable after we file such material electronically with or furnish it to the Securities and Exchange Commission, or the SEC. The SEC also maintains a website that contains our SEC filings. The address of the site is [www.sec.gov](http://www.sec.gov). Further, a copy of this Annual Report on Form 10-K is located at the SEC's Public Reference Room at 100 F Street, NE, Washington, D.C. 20549. Information on the operation of the Public Reference Room can be obtained by calling the SEC at 1-800-SEC-0330. The contents of our website are not intended to be incorporated by reference into this Annual Report on Form 10-K or in any other report or document we file with the SEC, and any references to our websites are intended to be inactive textual references only.

## Item 1A. Risk Factors

*There are numerous and varied risks, known and unknown, that may prevent us from achieving our goals. If any of these risks actually occur, our business, financial condition or results of operation may be materially adversely affected. In such case, the trading price of our common stock could decline and investors could lose all or part of their investment.*

### Risks Relating to Our Business

***Since we have a limited operating history and have only recently commenced lead-producing operations, it is difficult for potential investors to evaluate our business.*** We formed our corporation in June 2014 and only commenced revenue producing operations in January 2017. To date, our operations have consisted of the development and limited testing of our AquaRefining process, the development of our business plan, the raise of our present working capital and the development of our initial LAB recycling facility in Tahoe Regional Industrial Center, McCarran, Nevada (“TRIC”). Our limited operating history makes it difficult for potential investors to evaluate our technology or prospective operations. As an early stage company, we are subject to all the risks inherent in the initial organization, financing, expenditures, complications and delays in a new business. Investors should evaluate an investment in us in light of the uncertainties encountered by developing companies in a competitive environment. There can be no assurance that our efforts will be successful or that we will ultimately be able to attain profitability.

***We may need additional financing to execute our business plan and fund operations, which additional financing may not be available on reasonable terms or at all.*** As of December 31, 2016, we had total assets of \$71.5 million and working capital of \$23.3 million. Since December 31, 2016, we have received an additional \$10.5 million of working capital by way of the sale of our common shares to Johnson Controls. As of the date of this report, and after giving effect to the \$10.5 million net investment by Johnson Controls, we believe that we have working capital sufficient to fund our current business plan over the next 12 months, including the attainment of production at the rate of 120 tonnes of recycled lead per day at our TRIC facility. However, we will require additional funding in order to finance our proposed development of additional AquaRefining recycling facilities. We intend to seek additional funds through various financing sources, including the private sale of our equity and debt securities, licensing fees for our technology, joint ventures with capital partners and project financing of our recycling facilities. However, there can be no guarantees that such funds will be available on commercially reasonable terms, if at all. If such funding is not available on satisfactory terms, we may be unable to further pursue our business plan and we may be unable to continue operations, in which case you may lose your entire investment.

***Our business model is new and has not been proven by us or anyone else.*** We are engaged in the business of producing recycled lead through a proprietary, patent-pending electro-chemical technology. While the production of recycled lead is an established business, to date all recycled lead has been produced by way of traditional smelting processes. To our knowledge, no one has successfully produced recycled lead in commercial quantities other than by way of smelting. We commenced the commercial scale production of recycled lead at our TRIC facility during January 2017. However, there can be no assurance that we will be able to produce lead in commercial quantities at a cost of production that will provide us with an adequate profit margin. The uniqueness of our AquaRefining process presents potential risks associated with the development of a business model that is untried and unproven.

***While the testing of our AquaRefining process has been successful to date, there can be no assurance that we will be able to replicate the process, along with all of the expected economic advantages, on a large commercial scale.*** As of the date of this report, we have built and operated both a small-scale unit of our AquaRefining process and a full-size production prototype. In addition, in connection with the commissioning of our TRIC facility, we conducted limited operations at our TRIC facility through the processing of recycled lead through a single AquaRefining module, and through our own on-site assay, we verified that the lead produced in the AquaRefining module is over 99.99 percent pure. During January 2017, we commenced the commercial scale production of recycled lead at our TRIC facility. While we believe that our development, testing and limited production to date has proven the concept of our AquaRefining process, the limited nature of our operations to date are not sufficient to confirm the economic returns on our production of recycled lead. There can be no assurance that the commencement of commercial scale operations at our TRIC facility will not incur unexpected costs or hurdles that might restrict the desired scale of our intended operations or negatively impact our projected gross profit margin.

***Our intellectual property rights may not be adequate to protect our business.*** We currently do not hold any patents for our products and processes. To date, we have filed seven international applications, two U.S. patent applications, and have twenty foreign applications pending, relating to certain elements of the technology underlying our AquaRefining process and related apparatus and chemical formulations. Although we expect to continue filing, where applicable, patent applications related to our technology, no assurances can be given that any patent will be issued on our patent applications or any other application that we may file in the future or that, if such patents are issued, they will be sufficiently broad to adequately protect our technology. In addition, we cannot assure you that any patents that may be issued to us will not be challenged, invalidated, or circumvented.

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

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

***Our business strategy includes licensing arrangements and entering into joint ventures and strategic alliances. Failure to successfully integrate such licensing arrangements, joint ventures, or strategic alliances into our operations could adversely affect our business.*** We propose to commercially exploit our AquaRefining process, in part, by licensing our technology to third parties and entering into joint ventures and strategic relationships with parties involved in the manufacture and recycling of LABs. Licensing programs, joint ventures and strategic alliances may involve significant other risks and uncertainties, including distraction of management's attention away from normal business operations, insufficient revenue generation to offset liabilities assumed and expenses associated with the transaction, and unidentified issues not discovered in our due diligence process, such as product quality, technology issues and legal contingencies. In addition, we may be unable to effectively integrate any such programs and ventures into our operations. Our operating results could be adversely affected by any problems arising during or from any licenses, joint ventures or strategic alliances.

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

***Certain industry participants may have the ability to restrict our access to used LABs and otherwise focus significant competitive pressure on us.*** We believe that our primary competition will come from operators of existing smelters and other parties invested in the existing supply chain for smelting, both of which may resist the change presented by our AquaRefining process. Competition from such incumbents may come in the form of restricted access to used LABs. We believe that LAB manufacturers who also maintain their own smelting operations control approximately 50% of the market for used LABs. We will require access to used LABs at market prices in order to carry out our business plan. If those LAB manufacturers and others involved in the reverse supply chain for used LABs attempt to restrict our access to used LABs that may adversely affect our prospects and future growth. There can be no assurance that we will be able to effectively withstand the pressures applied by our competition.

***We may experience significant fluctuations in raw material prices and the price of our principal product, either of which could have a material adverse effect on our liquidity, growth prospects and results of operations.*** Spent LAB's are our primary raw material and we believe that in recent years the cost of used LABS has been volatile at times. Our principal product, recycled lead, has also experienced price volatility from time to time as well. For example, the market price of lead on the London Metal Exchange, or LME, during 2015 and 2016 ranged from \$1,554 to \$2,456 per tonne. While we intend to pursue supply and tolling arrangements and hedge transactions as appropriate to offset any price volatility, the volatile nature of prices for used LABs and recycled lead could have an adverse impact on our liquidity, growth prospects and results of operations.

***The global economic conditions could negatively affect our prospects for growth and operating results.*** Our prospects for growth and operating results will be directly affected by the general global economic conditions of the industries in which our suppliers, partners and customer groups operate. We believe that the market price of our principal product, recycled lead, is relatively volatile and reacts to general global economic conditions. Lead prices decreased from \$2,139 per tonne on May 5, 2015 to a low of \$1,554 per tonne on November 23, 2015 because of fluctuations in the market. A month later, the price per ton increased back up to \$1,801 per ton; the price per tonne was \$1,983 on December 31, 2016. Our business will be highly dependent on the economic and market conditions in each of the geographic areas in which we operate. These conditions affect our business by reducing the demand for LABs and decreasing the price of lead in times of economic down turn and increasing the price of used LABs in times of increasing demand of LABs and recycled lead. There can be no assurance that global economic conditions will not, at times, negatively impact our liquidity, growth prospects and results of operations.

***We are subject to the risks of conducting business outside the United States.*** A part of our strategy involves our pursuit of growth opportunities in certain international market locations. We intend to pursue the development and ownership of recycling facilities in certain foreign jurisdictions, including Mexico, China and India, among others countries, however it is more likely that we will enter into licensing or joint venture arrangements with local partners who will be primarily responsible for the day-to-day operations. Any expansion outside of the US will require significant management attention and financial resources to successfully develop and operate any such facilities, including the sales, supply and support channels, and we cannot assure you that we will be successful or that our expenditures in this effort will not exceed the amount of any resulting revenues. Our international operations expose us to risks and challenges that we would otherwise not face if we conducted our business only in the United States, such as:

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

***Government regulation and environmental, health and safety concerns may adversely affect our business.*** Our operations in the United States will be subject to the Federal, State and local environmental, health and safety laws applicable to the reclamation of lead acid batteries. Depending on how any particular operation is structured, our facilities may have to obtain environmental permits or approvals to operate, including those associated with air emissions, water discharges, and waste management and storage. We may face opposition from local residents or public interest groups to the installation and operation of our facilities. Failure to secure (or significant delays in securing) the necessary approvals could prevent us from pursuing some of our planned operations and adversely affect our business, financial results and growth prospects. In addition to permitting requirements, our operations are subject to environmental health, safety and transportation laws and regulations that govern the management of and exposure to hazardous materials such as the lead and acids involved in battery reclamation. These include hazard communication and other occupational safety requirements for employees, which may mandate industrial hygiene monitoring of employees for potential exposure to lead. Failure to comply with these requirements could subject our business to significant penalties (civil or criminal) and other sanctions that could adversely affect our business.

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

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

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

### **Risks Related to Owning Our Common Stock**

***Prior to the completion of our initial public offering in July 2015, there was no public trading market for our common stock.*** Our common stock has traded on the Nasdaq Capital Market, under the symbol “AQMS”, since July 31, 2015. Since that date, our common stock has at times been relatively thinly traded. There can be no assurance that we will be able to successfully maintain a liquid market for our common shares. The stock market in general, and early stage public companies in particular, has experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of such companies. If we are unable to develop a market for our common shares, you may not be able to sell your common shares at prices you consider to be fair or at times that are convenient for you, or at all.

***Control by management may limit your ability to influence the outcome of director elections and other transactions requiring stockholder approval.*** As of February 28, 2017, our directors and executive officers beneficially own approximately 18.9% of our outstanding common stock. In addition, one other stockholder, Interstate Battery Systems International, Inc., beneficially owns an additional 16.6%. As a result, such persons acting together will have significant influence over corporate actions requiring stockholder approval, including the following actions:

- to elect or defeat the election of our directors;
- to amend or prevent amendment of our certificate of incorporation or bylaws;
- to effect or prevent a merger, sale of assets or other corporate transaction; and
- to control the outcome of any other matter submitted to our stockholders for vote.

Such persons’ stock ownership may discourage a potential acquirer from making a tender offer or otherwise attempting to obtain control of our company, which in turn could reduce our stock price or prevent our stockholders from realizing a premium over our stock price.

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

- not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act;
- reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements;

- exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments; and
- extended transition periods available for complying with new or revised accounting standards.

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

We will remain an “emerging growth company” for up to 2020, although we will lose that status sooner if our revenues exceed \$1 billion, if we issue more than \$1 billion in non-convertible debt in a three-year period, or if the market value of our common stock that is held by non-affiliates exceeds \$700 million as of any June 30.

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

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

***Shares eligible for future sale may adversely affect the market for our common stock.*** Of the 19,337,164 shares of our common stock outstanding as of the date of this report, approximately 14,234,184 shares are held by “non-affiliates” and are freely tradable without restriction pursuant to Rule 144. In addition, in August 2016, we filed with the SEC a Registration Statement on Form S-3 for purposes of registering the resale of 4,431,205 share of restricted common stock sold in our May 2016 financing, including 3,009,625 shares of common stock issuable to Interstate Battery upon exercise of its warrants and conversion of its convertible note, and in February 2017, we filed with the SEC a Registration Statement on Form S-3 for purposes of registering the resale of the 939,005 shares of restricted common stock we sold to Johnson Controls in February 2017. Any substantial sale of our common stock pursuant to Rule 144 or pursuant to any resale prospectus may have a material adverse effect on the market price of our common stock.

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

- limit who may call stockholder meetings;
- do not permit stockholders to act by written consent;
- do not provide for cumulative voting rights; and
- provide that all vacancies may be filled by the affirmative vote of a majority of directors then in office, even if less than a quorum.

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

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

**Item 1B. Unresolved Staff Comments**

Not applicable.

**Item 2. Properties**

Our executive offices are presently located in a 21,697 square foot office and industrial space in a multi-building commercial project known as "Marina Village" located in Alameda, California. We also conduct engineering and assembly and shipment of our AquaRefining modules from the Marina Village facility. The lease term is 76 months, commencing February 1, 2016 and expiring May 31, 2022. Monthly rent is \$39,054, after a four month abatement of rent, subject to annual increases of approximately 2.7% commencing June 1, 2017 and ending May 31, 2021, at which time the monthly rent for the remainder of the lease term will be \$45,346.

We also lease a 5,200 square foot engineering and test facility in Oakland, California pursuant to a four-year lease, expiring on April 30, 2018, at a lease rate of \$3,100 per month to April 30, 2016, then \$3,200 per month until April 30, 2017 and then \$3,300 until April 30, 2018.

In May 2015, we purchased 11.73 acres of undeveloped land located in TRIC, a 107,000-acre park located nine miles east of Reno, Nevada on I-80. We have substantially completed development of a 136,750 square foot lab recycling facility on the property, as more fully described at "Business - Our First Recycling Facility: McCarran, Nevada."

**Item 3. Legal Proceedings**

As of the date of this report, there are no pending legal proceedings to which we or our properties are subject.

**Item 4. Mine Safety Disclosures**

Inapplicable.

## PART II

### Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Repurchases of Equity Securities

#### Market Information

Our common stock has traded on the NASDAQ Capital Market under the symbol "AQMS," since our initial public offering on July 31, 2015. Since then, our common stock common stock has been relatively thinly traded at times and has experienced, and is expected to experience in the future, significant price and volume volatility. The following table shows the reported high and low closing prices per share for our common stock based on information provided by the NASDAQ Capital Market for the periods indicated.

	2016		2015	
	High	Low	High	Low
First Quarter	\$ 6.65	\$ 4.51	\$ -	\$ -
Second Quarter	\$ 12.92	\$ 7.15	\$ -	\$ -
Third Quarter	\$ 12.73	\$ 8.18	\$ 5.50	\$ 4.78
Fourth Quarter	\$ 13.66	\$ 8.62	\$ 5.38	\$ 4.85

#### Holders of Record

As of February 28, 2017, there were 30 holders of record of our common stock.

#### Dividend Policy

We have never declared or paid cash dividends on our common stock. We presently intend to retain earnings to finance the operation and expansion of our business.

#### Equity Compensation Plan Information

We have adopted the Aqua Metals, Inc. 2014 Stock Incentive Plan providing for the grant of non-qualified stock options and incentive stock options to purchase shares of our common stock and for the grant of restricted and unrestricted share grants. We have reserved 1,363,637 shares of our common stock under the plan. All of our officers, directors, employees and consultants are eligible to participate under the plan. The purpose of the plan is to provide eligible participants with an opportunity to acquire an ownership interest in our company.

The following table sets forth the number and weighted-average exercise price of securities to be issued upon exercise of outstanding options and warrants, and the number of securities remaining available for future issuance, under our equity compensation plan at December 31, 2016.

Plan Category	Number of Securities to be Issued Upon Exercise of Outstanding Options and Warrants	Weighted-Average Exercise Price of Outstanding Options and Warrants	Number of Securities Remaining Available for Future Issuance Under Equity compensation Plans
Equity compensation plans approved by stockholders	915,572(1)	\$ 4.96	443,565
Equity compensation plans not approved by stockholders	3,802,572(2)	\$ 6.62	-

(1) Consists of options to purchase a total of 915,572 shares of Common Stock under our 2014 Stock Incentive Plan.

(2) Includes IPO and financing warrants as well as warrants issued for consulting activities.

**Unregistered Sales of Equity Securities and Use of Proceeds**

None.

**Item 6. Selected Financial Data**

Not required.

## Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

### General

Aqua Metals (NASDAQ: AQMS) is reinventing lead recycling with its patent-pending AquaRefining™ technology. Unlike smelting, AquaRefining is a room temperature, water-based process that is fundamentally non-polluting. These modular systems allow the lead-acid battery industry to simultaneously improve environmental impact and scale production to meet rapidly growing demand. Aqua Metals is based in Alameda, California, and has built its first recycling facility in Nevada's Tahoe Reno Industrial Complex. We were formed as a Delaware corporation on June 20, 2014 and since our formation, we have focused our efforts on the development and testing of our AquaRefining process, the development of our business plan, the raise of our present working capital and the development of our initial lead acid battery, or LAB, recycling facility in the Tahoe Regional Industrial Center, McCarran, Nevada ("TRIC").

We have completed the development of our initial LAB recycling facility at TRIC and commenced the commercial scale production of recycled lead during January 2017. We expect TRIC to achieve a production rate of 120 metric tons of recycled lead per day in the first half of 2017.

Since our organization in 2014, we have engaged in the following financing transactions:

*Convertible Note Placement.* Prior to our initial public offering, we capitalized our operations with equity contributions and advances from our founders, our receipt of a \$0.5 million investment from Wirtz Manufacturing Co. Inc. and our receipt of \$5.5 million of capital from our private placement sale of senior secured convertible promissory notes, which we refer to as our "convertible notes", in October 2014. Pursuant to the terms of our investment agreement with Wirtz Manufacturing Co. Inc., Wirtz exchanged its investment in our company for a convertible note sold in the October 2014 private placement. As a result, we had issued and outstanding convertible notes in the aggregate principal amount of \$6.0 million, with accrued and unpaid interest as of August 5, 2015 in the amount of \$0.3 million. All principal and accrued interest under the convertible notes converted into shares of our common stock at the close of our initial public offering on August 5, 2015.

*Initial Public Offering.* On July 31, 2015, we conducted an initial public offering of 6.6 million shares of our common stock, at the public offering price of \$5.00 per share. After the payment of underwriter discounts and offering expenses, and after giving effect to the underwriters' exercise of its overallotment option on August 13, 2015 to purchase an additional 641,930 shares of our common stock at the offering price of \$5.00 per share, we received net proceeds of approximately \$32.9 million.

Pursuant to the terms of the above convertible notes, all principal and interest under the convertible notes automatically converted into shares of our common stock upon the completion of the initial public offering at the conversion price of \$2.50 per share. As of the close of our initial public offering, all principal and interest, including \$6.0 million of principal and \$0.3 million of accrued interest, under the convertible notes automatically converted into 2,511,871 shares of our common stock.

*Green Bank Loan.* On November 3, 2015, Aqua Metals Reno, Inc., our wholly-owned subsidiary, entered into a Loan Agreement with Green Bank, N.A. pursuant to which Green Bank provided us with a loan in the amount of \$10.0 million. The loan proceeds were applied towards the development of our TRIC facility. The loan accrues interest at an annual rate of the Wall Street Journal Prime Rate Index plus a margin of 2.00% per year, adjusted quarterly, with a floor rate of 6.00% per year. Interest-only payments were due monthly for the first twelve months. Thereafter, principal and interest are due monthly and are fully amortized over 20 years. The loan is collateralized by the real estate, plant and fixtures at the TRIC facility and a certificate of deposit of \$1.0 million at Green Bank. Additionally, the terms of the Loan Agreement contain various affirmative and negative covenants. Among them, Aqua Metals Reno, Inc. must maintain a minimum debt service coverage ratio of 1.25 to 1.0, a maximum debt-to-net worth ratio of 1.0 to 1.0 and a minimum current ratio of 1.5 to 1.0.

The loan is guaranteed by the United States Department of Agriculture Rural Development, or USDA, in the amount of 90% of the principal amount of the loan. We paid a guarantee fee to USDA in the amount of \$270,000 at the time of closing of the Loan Agreement and we will be required to pay to USDA an annual renewal fee in the amount of 0.50% of the guaranteed portion of the outstanding principal balance of the loan as of December 31 of each year.

*Interstate Battery Investment.* On May 18, 2016, we entered into definitive agreements with Interstate Battery System International, Inc. ("Interstate Battery") and other investors for the sale of approximately \$15.1 million of our equity and debt securities, including a \$10.0 million investment by Interstate Battery, the largest independent battery distributor in North America. At the same time, we also entered into a supply agreement with Interstate Battery pursuant to which Interstate Battery will supply us with used LABs as feedstock for our AquaRefineries. The investment transactions closed on May 24, 2016.

Pursuant to the investment agreements with Interstate Battery, Interstate Battery:

- Purchased 702,247 shares of our common stock at \$7.12 per share for the gross proceeds of approximately \$5.0 million; and
- Loaned us \$5.0 million pursuant to a secured convertible promissory in the original principal amount of \$5.0 million. The note will bear interest at the rate of eleven percent (11%) per annum, compounding monthly, and all interest shall be payable upon the earlier of maturity or conversion of the principal amount. The outstanding principal is convertible into our common shares at a conversion price of \$7.12 per share. Our obligations under the loan are secured by a second priority lien interest on our assets, other than our intellectual property. The loan will mature on May 18, 2019.

In connection with the agreements, we granted Interstate Battery warrants to purchase our common stock, including:

- a fully vested warrant to purchase 702,247 shares of our common stock, at an exercise price of \$7.12 per share, expiring on May 24, 2018; and
- a warrant to purchase 1,605,131 shares of our common stock, at an exercise price of \$9.00 per share, vesting on November 16, 2016 and expiring on May 24, 2019.

We granted Interstate Battery customary demand and piggyback registration rights, limited board observation rights over the next three years and limited preemptive rights allowing it to purchase its proportional share of certain future equity issuances by us over the next three years. We included all of the Interstate Battery shares in our Form S-3 Registration Statement filed with the Securities and Exchange Commission on August 1, 2016.

If Interstate Battery were to convert its convertible note and exercise both warrants in their entirety as of the date of this report, it would own approximately 16.6% of the common stock of Aqua Metals at an average price per share of approximately \$7.93.

We also entered into a definitive agreement with certain accredited investors to sell approximately \$5.1 million of our common stock through National Securities Corporation as placement agent. Pursuant to this agreement, we sold 719,333 of shares of our common stock, at the price of \$7.12 per share, for gross proceeds of approximately \$5.1 million.

*Public Offering.* On November 21, 2016, we completed a public offering of 2.3 million shares of our common stock, at the public offering price of \$10.00 per share, for gross proceeds of \$23.0 million. The completed offering includes shares issued by the exercise in full of the underwriter's overallotment option. After the payment of underwriter discounts and offering expenses we received net proceeds of approximately \$21.5 million. In connection with the underwriting agreement, we issued a warrant for 33,450 shares of our common stock, at an exercise price of \$10.00 per share, vesting on May 20, 2017 and expiring on November 21, 2019.

*Johnson Controls Investment.* In connection with our entry into the equipment supply agreement and tolling/lead purchase agreement with Johnson Controls, on February 7, 2017 which we entered into a stock purchase agreement with Johnson Controls pursuant to which we sold to Johnson Controls 939,005 shares of our common stock at \$11.33 per share for the gross proceeds of approximately \$10.6 million. We granted Johnson Controls customary demand and piggyback registration rights, limited board observation rights and limited preemptive rights allowing it to purchase its proportional share of certain future equity issuances by us. We included all of the Johnson Controls shares in our Form S-3 Registration Statement filed with the Securities and Exchange Commission on February 27, 2017.

## **Plan of Operations**

We have completed the development of our initial LAB recycling facility at TRIC and commenced the commercial scale production of recycled lead during January 2017. Our plan of operations for the 12-month period following the date of this report is to expand operations at our first recycling facility at TRIC to 120 tonnes of lead production per day. In the longer term, our goal is to increase our production of lead at our TRIC facility to 160 tonnes per day. Our 12-month plan of operations also includes our collaboration with Johnson Controls for the development of a program for the installation of new greenfield builds and conversion of Johnson Controls and certain strategic partners of Johnson Controls' existing lead smelters throughout North America, China and Europe to a lead recycling process utilizing our proprietary and patent-pending AquaRefining technology and equipment, know-how and services. Finally, our 12-month plan of operations includes our continued pursuit of the expansion of our business with additional recycling facilities and licensing of our recycling technology and equipment to third parties.

Separately, we are engaged in detailed discussions with providers of non-dilutive capital to finance up to an additional four facilities, each of which would have a production capacity of approximately 160 tonnes per day. Through the supply and off-take relationships that we have established with Battery Systems Inc., Interstate Battery and Johnson Controls, we believe we are better positioned to acquire the necessary funding, including potential forms of non-diluting financing, in order to finance our next facilities. However, as of the date of this report, we have no formal agreements with regard to the financing and there can be no assurance that we will be able to consummate an agreement on terms acceptable to us, or at all.

## Results of Operations for the Fiscal Year Ended December 31, 2016 Compared to the Fiscal Year Ended December 31, 2015

We were formed on June 20, 2014 and did not commence revenue producing operations until January 2017. To date, our operations have consisted of the development and limited testing of our AquaRefining process, the development of our business plan, the raise of our present working capital and the development of our initial lead acid battery, or LAB, recycling facility near Reno, Nevada. The following table summarizes our results of operations with respect to the items set forth below for the years ended December 31, 2016 and 2015 together with the percentage change in those items (in thousands).

	Year Ended December 31,			
	2016	2015	Favorable (Unfavorable)	% Change
Operations and development costs	6,348	2,280	(4,068)	-178.42%
General and administrative expense	6,610	3,171	(3,439)	-108.45%

Operations and development costs have nearly tripled from 2015 to 2016. The increase is due to the increased level of operations following the completion of our initial public offering in August 2015. Salary related expenses have nearly tripled, commensurate with a nearly three-fold increase in head-count for the year ended December 31, 2016 versus 2015. Our research and development expenses have doubled for the year ended December 31, 2016 versus 2015, corresponding to an increase in developmental activities over the prior year. Other increases include professional services, depreciation, insurance, travel and general overhead costs due to our increased activities, particularly with regards to staffing up our operations at TRIC.

General and administrative expense has also increased significantly. Salary related expenses doubled for the year ended December 31, 2016 versus 2015, while average headcount increased by 31%. The primary contributors to the difference between headcount and overall expense is an increase in executive compensation (including bonus) of \$0.8 million in 2016 versus 2015 and an increase in stock based compensation expense of \$0.6 million. Professional services have increased by approximately \$0.9 million for the year ended December 31, 2016 versus 2015, which include both third-party consulting and legal fees and primarily relates to being a publicly traded company during 2016 versus a private company during much of 2015. Professional fees during the year ended December 31, 2016 include a one-time \$0.2 million charge due to the modification of a previously issued stock option to a former member of our Board of Directors that accelerated the vesting and waived the early termination of the option based upon the termination of his service to the Company due to his death. The remaining increase is due to increased travel, insurance and general overhead costs due to our increased activities compared to the prior year.

	Year Ended December 31,			
	2016	2015	Favorable (Unfavorable)	% Change
Other expense (income)				
Increase in fair value of derivative liabilities	\$ -	\$ (5,776)	\$ (5,776)	-
Interest expense	(639)	(1,128)	(489)	43.35%
Interest income	41	26	(15)	-57.69%
Other income	-	-	-	-

We incurred approximately \$5.8 million of expense during the year ended December 31, 2015 relating to an increase in the fair value of derivative liabilities related to our then-outstanding convertible notes and related financing warrants. The convertible notes were converted at the time of our IPO in August 2015 and, at the same time the derivative liability associated with the financing warrant was reclassified to additional paid-in capital. Therefore, there is no expense related to the derivative liabilities during the year ended December 31, 2016. We incurred interest expense of approximately \$1.1 million during the year ended December 31, 2015, related to our convertible notes, which, as noted above, converted at the time of our IPO. Interest during the year ended December 31, 2016 relates primarily to interest incurred on the \$5.0 million Interstate Battery convertible note and the \$10.0 million notes payable as well as amortization of debt issuance costs incurred in connection with both of these notes as well as an accrual for the USDA guarantee fee on the \$10.0 million note. Interest of \$0.5 million and \$0.1 million relating to the \$10.0 million notes payable was capitalized during the years ended December 31, 2016 and 2015, respectively, as part of the building cost of the TRIC facility until its completion, in early November 2016.

The note discount associated with the Interstate Battery convertible note is being amortized using the effective interest method over the three-year term of the note, maturing on May 24, 2019. Using the effective interest method results in higher expense in later periods growing from \$0.1 million in 2016 to \$2.6 million 2019. Non-cash interest expense associated with the note discount amortization will be \$0.4 million in 2017, \$2.0 million in 2018 and \$2.6 million in 2019.

## Liquidity and Capital Resources

As of December 31, 2016, we had total assets of \$71.5 million and working capital of \$23.3 million.

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

	<b>Year ended December 31,</b>	
	<b>2016</b>	<b>2015</b>
Net cash used in operating activities	(11,121)	(1,476)
Net cash used in investing activities	(19,063)	(25,044)
Net cash provided by financing activities	35,501	42,124

### *Net cash used in operating activities*

Net cash used in operating activities for the year ended December 31, 2016 and 2015 was \$11.1 million and \$1.5 million, respectively. Net cash used in operating activities during each of these periods consisted primarily of our net loss adjusted for noncash items such as depreciation, amortization, stock-based compensation charges, and noncash charges related to the mark-to-market valuation of our derivative liabilities (2015), as well as net changes in working capital.

### *Net cash used in investing activities*

Net cash used in investing activities for the year ended December 31, 2016 and 2015 was \$19.1 million and \$25.0 million, respectively. Net cash used in investing activities during each of these periods consists primarily of purchases of fixed assets related to the build out of our TRIC recycling facility in Nevada and, to a lesser extent, our corporate headquarters.

### *Net cash provided by financing activities*

Net cash provided by financing activities for the year ended December 31, 2016 primarily consists of \$21.5 million net proceeds from the issuance of common stock in our November 2016 public offering; \$9.1 million net proceeds from the issuance of common stock to Interstate Battery and other investors through our placement agent, National Securities Corporation; and \$4.9 million net proceeds from the Interstate Battery convertible note.

Net cash provided by financing activities for the year ended December 31, 2015 primarily consists of \$32.9 million net proceeds from our IPO and \$9.3 million net proceeds from a loan from Green Bank.

As of the date of this report, after giving effect to the \$10.5 million net investment by Johnson Controls in February 2017, we believe that our working capital is sufficient to fund our current business plan over the next 12 months, including the attainment of production at the rate of 120 tonnes of recycled lead per day at our TRIC. However, we will require additional capital in order to fund our proposed development of additional AquaRefining recycling facilities. We intend to seek additional funds through various financing sources, including the sale of our equity and debt securities, licensing fees for our technology, joint ventures with capital partners and/or project financing of our recycling facilities. However, there can be no guarantees that such funds will be available on commercially reasonable terms, if at all. If such financing is not available on satisfactory terms, we may be unable to further pursue our business plan and we may be unable to continue operations.

## Off-Balance Sheet Arrangements

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

## Critical Accounting Policies and Significant Judgments and Estimates

Our management's discussion and analysis of our financial condition and results of operations is based on our consolidated financial statements, which have been prepared in accordance with U.S. generally accepted accounting principles, or U.S. GAAP. The preparation of our consolidated financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the consolidated financial statements, and the reported amounts of expenses during the period. Significant items subject to such estimates and assumptions include the carrying amount and valuation of long-lived assets, the valuation of conversion features of convertible debt, valuation allowances for deferred tax assets, the determination of stock option expense, and the determination of the fair value of stock warrants issued. Our actual results could differ from these estimates under different assumptions or conditions.

While our significant accounting policies are more fully described in Note 2 to the consolidated financial statements included in Item 8 of this Annual Report on Form 10-K, we believe that the following accounting policies are the most critical to assist stockholders and investors reading the consolidated financial statements in fully understanding and evaluating our financial condition and results of operations.

### Inventory

Inventory is stated as the lower of cost or market. Cost is determined using the weighted average method. Market value is determined as the lower of replacement cost or net realizable value. At December 31, 2016, inventory consisted of raw materials, primarily chemicals, to be used in the lead recycling process.

### Property and equipment

Property and equipment are stated at cost net of accumulated depreciation. Depreciation on property and equipment is calculated on the straight-line basis over the estimated useful lives of the assets. Leasehold improvements are depreciated over the shorter of the life of the asset or the remaining term of the lease.

### Intangible and other long-lived assets

The intangible assets consist of a patent application contributed to us by five founding stockholders, patent applications for technology developed by us and trademark applications. The useful life of the intangible assets has been determined to be ten years and the assets are being amortized. We periodically evaluate our intangible and other long-lived assets for indications that the carrying amount of an asset may not be recoverable. In reviewing for impairment, we compare the carrying value of such assets to the estimated undiscounted future cash flows expected from the use of the assets and their eventual disposition. When the estimated undiscounted future cash flows are less than their carrying amount, an impairment loss is recognized equal to the difference between the assets' fair value and their carrying value. In addition to the recoverability assessment, we routinely review the remaining estimated lives of our long-lived assets. Any reduction in the useful life assumption will result in increased depreciation and amortization expense in the period when such determination is made, as well as in subsequent periods. We evaluate the need to record impairment during each reporting period. No impairment has been recorded. We determined that the estimated life of the intellectual property properly reflected the current remaining economic life of the asset.

### Research and development

Research and development expenditures are expensed as incurred.

### Income taxes

We account for income taxes in accordance with the liability method of accounting for income taxes. Under the liability method, deferred assets and liabilities are recognized based upon anticipated future tax consequences attributable to differences between financial statement carrying amounts of assets and liabilities and their respective tax bases. The provision for income taxes is comprised of the current tax liability and the changes in deferred tax assets and liabilities. We established a valuation allowance to the extent that it is more likely than not that deferred tax assets will not be recoverable against future taxable income.

We recognize the effect of uncertain income tax positions only if those positions are more likely than not of being sustained. Recognized income tax positions are measured at the largest amount that is greater than 50% likely of being realized. Changes in recognition or measurement are reflected in the period in which the change in judgment occurs.

### Stock-based compensation

We recognize compensation expense for stock-based compensation in accordance with ASC 718 “Compensation – Stock Compensation.” For employee stock-based awards, we calculate the fair value of the award on the date of grant using the Black-Scholes-Merton method for stock options; the expense is recognized over the service period for awards to vest.

The estimation of stock-based awards that will ultimately vest requires judgment and to the extent actual results or updated estimates differ from the original estimates, such amounts are recorded as a cumulative adjustment in the period estimates are revised. The Company considers many factors when estimating expected forfeitures, including types of awards, employee class and historical experience.

### Recent accounting pronouncements

See recent accounting pronouncements in Note 2 of the consolidated financial statements located in Item 8 in this Annual Report.

### **Item 7A. Quantitative and Qualitative Disclosures About Market Risk**

Not applicable.

**Item 8. Financial Statements and Supplementary Data**

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## REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and  
Stockholders of Aqua Metals, Inc. and Subsidiaries:

We have audited the accompanying consolidated balance sheets of Aqua Metals, Inc. and Subsidiaries (collectively the "Company") as of December 31, 2016 and 2015, and the related consolidated statements of operations, stockholders' equity, and cash flows for the years then. The consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the consolidated financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States of America). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of their internal control over financial reporting. Our audit included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the consolidated financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2016 and 2015, including the consolidated results of their operations and their cash flows for the years then ended, in conformity with accounting principles generally accepted in the United States of America.

/s/ Armanino LLP  
San Ramon, CA  
March 2, 2017

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

	<b>December 31, 2016</b>	<b>December 31, 2015</b>
<b><u>ASSETS</u></b>		
<b>Current assets</b>		
Cash and cash equivalents	\$ 25,458	\$ 20,141
Restricted cash	1,124	11,667
Inventory	59	-
Prepaid expenses and other current assets	729	147
Total current assets	<u>27,370</u>	<u>31,955</u>
<b>Non-current assets</b>		
Property and equipment, net	41,392	12,603
Intellectual property, net	1,137	1,065
Other assets	1,630	1,653
Total non-current assets	<u>44,159</u>	<u>15,321</u>
Total assets	<u>\$ 71,529</u>	<u>\$ 47,276</u>
<b><u>LIABILITIES AND STOCKHOLDERS' EQUITY</u></b>		
<b>Current liabilities</b>		
Accounts payable	\$ 1,572	\$ 3,192
Accrued expenses	1,975	81
Deferred rent, current portion	177	-
Notes payable, current portion	307	45
Total current liabilities	<u>4,031</u>	<u>3,318</u>
Deferred rent, non-current portion	963	1,071
Notes payable, non-current portion	9,238	9,222
Convertible note payable, non-current portion	307	-
Total liabilities	<u>14,539</u>	<u>13,611</u>
Commitments and contingencies	-	-
<b>Stockholders' equity</b>		
Common stock; \$0.001 par value; 50,000,000 shares authorized;		
17,878,725 and 14,137,442 shares issued and outstanding December 31, 2016 and December 31, 2015, respectively		
Additional paid-in capital	18	14
Accumulated deficit	85,234	48,356
Total stockholders' equity	<u>(28,262)</u>	<u>(14,705)</u>
Total liabilities and stockholders' equity	<u>\$ 71,529</u>	<u>\$ 47,276</u>

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

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

	<b>Year ended December 31,</b>	
	<b>2016</b>	<b>2015</b>
Operations and development costs	\$ 6,348	\$ 2,280
General and administrative expense	6,610	3,171
Total operating expenses	12,958	5,451
Loss from operations	(12,958)	(5,451)
Other income and expenses		
Increase in fair value of derivative liabilities	-	(5,776)
Interest expense	(639)	(1,128)
Interest and other income	41	26
Total other expense, net	(598)	(6,878)
Loss before income tax expense	(13,556)	(12,329)
Income tax expense	(1)	(3)
Net loss	\$ (13,557)	\$ (12,332)
Weighted average shares outstanding, basic and diluted	15,267,233	8,404,311
Basic and diluted net loss per share	\$ (0.89)	\$ (1.47)

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

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

	Common Stock		Additional Paid-in Capital	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount			
Balances, December 31, 2014	4,363,641	\$ 4	\$ 1,600	\$ (2,374)	\$ (770)
Common stock issued upon initial public offering ("IPO"), net of offering costs	6,600,000	7	29,891	-	29,898
Common stock issued for over allotment of the IPO, net of offering costs	641,930	1	2,963	-	2,964
Conversion of convertible notes and accrued interest upon completion of the IPO	2,511,871	2	6,277	-	6,279
Extinguishment of beneficial conversion feature derivative liability	-	-	6,280	-	6,280
Reclassification of financing warrants (from derivative liability to APIC) upon completion of IPO	-	-	881	-	881
Stock based compensation - stock options	-	-	301	-	301
Stock issued for consulting services	20,000	-	98	-	98
Warrants issued for consulting services	-	-	65	-	65
Net loss	-	-	-	(12,331)	(12,331)
Balances, December 31, 2015	14,137,442	\$ 14	\$ 48,356	\$ (14,705)	\$ 33,665
Stock based compensation - stock options	-	-	1,060	-	1,060
Warrants issued for consulting services	-	-	138	-	138
Cashless exercise of warrant	15,203	-	-	-	-
Exercise of options to purchase common stock	4,500	-	19	-	19
Common stock issued in May 2016 Private Placement, net of \$345 offering costs	719,333	1	4,777	-	4,778
Common stock issued for cash in May 2016 from Interstate Battery, net of \$629 allocated transaction cost	702,247	1	4,369	-	4,370
Common stock issued in November 2016 public offering, net of \$1,688 offering costs	2,300,000	2	21,540	-	21,542
Proceeds allocated to warrants issued and beneficial conversion feature in connection with Interstate Batteries Agreement	-	-	4,975	-	4,975
Net loss	-	-	-	(13,557)	(13,557)
Balances, December 31, 2016	<u>17,878,725</u>	<u>\$ 18</u>	<u>\$ 85,234</u>	<u>\$ (28,262)</u>	<u>\$ 56,990</u>

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

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

	Year ended December 31,	
	2016	2015
<b>Cash flows from operating activities:</b>		
Net loss	(13,557)	\$ (12,332)
Reconciliation of net loss to net cash used in operating activities		
Depreciation	687	89
Amortization of intellectual property	128	110
Fair value of warrants issued for consulting services	138	65
Fair value of common stock issued for consulting services	-	98
Stock option compensation	1,060	301
Increase in fair value of derivative liabilities	-	5,776
Amortization of debt discount	54	909
Amortization of deferred financing costs	62	5
Non-cash convertible note interest expense	343	214
Changes in operating assets and liabilities		
Inventory	(59)	-
Prepaid expenses and other current assets	(394)	(95)
Accounts payable	(176)	3,152
Accrued expenses	564	68
Deferred rent	29	164
Net cash used in operating activities	<u>(11,121)</u>	<u>(1,476)</u>
<b>Cash flows from investing activities:</b>		
Decrease (increase) in restricted cash	7,899	(11,667)
Purchases of property and equipment	(26,512)	(11,637)
Other assets	(250)	(1,594)
Intellectual property related expenditures	(200)	(146)
Net cash used in investing activities	<u>(19,063)</u>	<u>(25,044)</u>
<b>Cash flows from financing activities:</b>		
Proceeds from issuance of common stock, net of offering costs	30,709	32,862
Proceeds from issuance of notes payable, net of issuance costs	-	9,262
Payments on notes payable	(14)	-
Payments on capital leases	(52)	-
Proceeds from issuance of convertible notes payable, net of issuance costs	4,858	-
Net cash provided by financing activities	<u>35,501</u>	<u>42,124</u>
Net increase (decrease) in cash and cash equivalents	5,317	15,604
Cash and cash equivalents at beginning of period	<u>20,141</u>	<u>4,537</u>
Cash and cash equivalents at end of period	<u>\$ 25,458</u>	<u>\$ 20,141</u>

(Continued)

	<b>Year ended December 31,</b>	
	<b>2016</b>	<b>2015</b>
<b>Supplemental disclosure of cash flow information:</b>		
Cash paid for interest, net of amounts capitalized	\$ 330	\$ 103
Cash paid for income taxes	\$ 1	\$ 2
<b>Non-cash investing activities</b>		
Tenant improvement allowances	\$ 78	\$ 869
<b>Non-cash financing activities</b>		
Capital lease	\$ 310	\$ -
Fair value of consulting warrants	\$ 138	\$ 65
Fair value of financing warrants	\$ 229	\$ 881
Fair value of common stock issued upon conversion of convertible notes and accrued interest	\$ -	\$ 6,279
Fair value of common stock issued upon extinguishment of beneficial conversion feature derivative liability	\$ -	\$ 6,280
Fair value of common stock issued to consultants	\$ -	\$ 98
Total non-cash financing activities	<u>\$ 677</u>	<u>\$ 13,603</u>
<b>Supplemental disclosure of non-cash transactions</b>		
Increase in property and equipment resulting from increase in accounts payable	\$ 1,200	\$ -
Increase in property and equipment resulting from increase in accrued expenses	\$ 1,330	\$ -
Decrease in restricted cash resulting from a decrease in accounts payable	\$ 2,644	\$ -
Recognition of convertible debt discount	\$ 4,975	\$ -

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

AQUA METALS, INC.  
Notes to Consolidated Financial Statements

1. Organization and Operations

Aqua Metals, Inc. (the “Company”) was incorporated in Delaware and commenced operations on June 20, 2014 (inception). On January 27, 2015, the Company formed two wholly-owned subsidiaries, Aqua Metals Reno, Inc. (“AMR”), and Aqua Metals Operations, Inc. (collectively, the “Subsidiaries”), both incorporated in Delaware. The Company is reinventing lead recycling with its patent-pending AquaRefining™ technology. Unlike smelting, AquaRefining is a room temperature, water-based process that is fundamentally non-polluting. These modular systems allow the lead-acid battery industry to simultaneously improve environmental impact and scale production to meet rapidly growing demand. The Company intends to manufacture the equipment it has developed, and will also operate lead acid battery recycling facilities. Construction of the first recycling facility is substantially complete in McCarran, Nevada, with equipment within the facility being commissioned on an on-going basis.

Liquidity and Management Plans

As of December 31, 2016, the Company has completed the development of our initial LAB recycling facility at the Tahoe Reno Industrial Center, (“TRIC”) and commenced the commercial scale production of recycled lead during January 2017. We expect TRIC to achieve a production rate of 120 metric tons of recycled lead per day in the first half of 2017.

The Company has not generated revenues since its inception and had net losses of \$13.6 million and \$12.3 million for the years ended December 31, 2016 and December 31, 2015, respectively. As of December 31, 2016, the Company’s cash balance was \$25.5 million. After giving effect to the receipt of an additional \$10.5 million of net proceeds from the sale of our common shares to Johnson Controls, Inc., as more fully described in Note 16 - Subsequent Events, the Company believes that its working capital will be sufficient to fund the Company’s operations into positive cash flow from the first recycling plant in McCarran, NV.

2. Summary of Significant Accounting Policies

Basis of presentation and consolidation

The accompanying consolidated financial statements include those of Aqua Metals, Inc. and its subsidiaries, after elimination of all intercompany accounts and transactions. We have prepared the accompanying consolidated financial statements in accordance with accounting principles generally accepted in the United States of America (“GAAP”) and pursuant to the rules and regulations of the United States Securities and Exchange Commission (the “SEC”). Certain reclassifications have been made to the December 31, 2015 balance sheet to conform to current period presentation. Specifically, equipment deposits at December 31, 2015 of \$3.8 million have been reclassified to property and equipment with the remaining balance reclassified to other assets.

Use of estimates

The preparation of the consolidated financial statements requires management of the Company to make a number of estimates and assumptions relating to the reported amount of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the consolidated financial statements, and the reported amounts of expenses during the period. Significant items subject to such estimates and assumptions include the carrying amount and valuation of long-lived assets, the valuation of conversion features of convertible debt, valuation allowances for deferred tax assets, the determination of stock option expense, and the determination of the fair value of stock warrants issued. Actual results could differ from those estimates.

Cash and cash equivalents

The Company considers all highly liquid instruments with original or remaining maturities of ninety days or less at the date of purchase to be cash equivalents. The Company maintains its cash balances in large financial institutions. Periodically, such balances may be in excess of federally insured limits.

### Restricted cash

Restricted cash is comprised of funds held in escrow at Green Bank for the purpose of paying for the construction of the lead recycling plant building in McCarran, NV. As of December 31, 2016, the building is substantially complete. At December 31, 2016, \$0.6 million of the outstanding accounts payable balance and \$0.4 million of the outstanding accrual liability balance is to be paid out of the escrowed funds.

### Inventory

Inventory is stated as the lower of cost or market. Cost is determined using the weighted average method. Market value is determined as the lower of replacement cost or net realizable value. At December 31, 2016, inventory consisted of raw materials, primarily chemicals, to be used in the lead recycling process.

### Property and equipment

Property and equipment are stated at cost net of accumulated depreciation. Depreciation on property and equipment is calculated on the straight-line basis over the estimated useful lives of the assets. Leasehold improvements are depreciated over the shorter of the life of the asset or the remaining term of the lease.

### Intangible and other long-lived assets

The intangible assets consist of a patent application contributed to the Company by five founding stockholders, patent applications for technology developed by the Company and trademark applications. The useful life of the intangible assets has been determined to be ten years and the assets are being amortized. The Company periodically evaluates its intangible and other long-lived assets for indications that the carrying amount of an asset may not be recoverable. In reviewing for impairment, the Company compares the carrying value of such assets to the estimated undiscounted future cash flows expected from the use of the assets and their eventual disposition. When the estimated undiscounted future cash flows are less than their carrying amount, an impairment loss is recognized equal to the difference between the assets' fair value and their carrying value. In addition to the recoverability assessment, the Company routinely reviews the remaining estimated lives of its long-lived assets. Any reduction in the useful life assumption will result in increased depreciation and amortization expense in the period when such determination is made, as well as in subsequent periods. The Company evaluates the need to record impairment during each reporting period. No impairment has been recorded. The Company determined that the estimated life of the intellectual property properly reflected the current remaining economic life of the asset.

### Research and development

Research and development expenditures are expensed as incurred.

### Income taxes

The Company accounts for income taxes in accordance with the liability method of accounting for income taxes. Under the liability method, deferred assets and liabilities are recognized based upon anticipated future tax consequences attributable to differences between financial statement carrying amounts of assets and liabilities and their respective tax bases. The provision for income taxes is comprised of the current tax liability and the changes in deferred tax assets and liabilities. The Company establishes a valuation allowance to the extent that it is more likely than not that deferred tax assets will not be recoverable against future taxable income.

The Company recognizes the effect of uncertain income tax positions only if those positions are more likely than not of being sustained. Recognized income tax positions are measured at the largest amount that is greater than 50% likely of being realized. Changes in recognition or measurement are reflected in the period in which the change in judgment occurs.

### Fair value measurements

The carrying amounts of cash and cash equivalents, inventory, prepaid expenses and other current assets, accounts payable, accrued expenses and deferred rent approximate fair value due to the short-term nature of these instruments. The carrying value of short and long term debt also approximates fair value since these instruments bear market rates of interest. None of these instruments are held for trading purposes.

Fair value is defined as an exit price, representing the amount that would be received upon the sale of an asset or payment to transfer a liability in an orderly transaction between market participants. Fair value is a market-based measurement that is determined based on assumptions that market participants would use in pricing an asset or liability. A three-tier fair value hierarchy is used to prioritize the inputs in measuring fair value as follows:

Level 1. Quoted prices in active markets for identical assets or liabilities.

Level 2. Quoted prices for similar assets and liabilities in active markets, quoted prices for identical or similar assets or liabilities in markets that are not active, or other inputs that are observable, either directly or indirectly.

Level 3. Significant unobservable inputs that cannot be corroborated by market data.

The asset or liability's fair value measurement within the fair value hierarchy is based upon the lowest level of any input that is significant to the fair value measurement.

There are no assets or liabilities that are measured at fair value on a recurring basis at December 31, 2016 or December 31, 2015.

#### Stock-based compensation

The Company recognizes compensation expense for stock-based compensation in accordance with ASC 718 "Compensation – Stock Compensation." For employee stock-based awards, the Company calculates the fair value of the award on the date of grant using the Black-Scholes-Merton method for stock options; the expense is recognized over the service period for awards to vest.

The estimation of stock-based awards that will ultimately vest requires judgment and to the extent actual results or updated estimates differ from the original estimates, such amounts are recorded as a cumulative adjustment in the period estimates are revised. The Company considers many factors when estimating expected forfeitures, including types of awards, employee class and historical experience.

#### Net loss per share

Basic net loss per share is computed by dividing net loss by the weighted average number of vested shares outstanding during the period. Diluted net loss per share is computed by giving effect to all potential dilutive common securities, including convertible notes, options and warrants. Potential dilutive common shares include the dilutive effect of the common stock underlying in-the-money stock options as is calculated based on the average share price for each period using the treasury stock method. Under the treasury stock method, the exercise price of an option and the average amount of compensation cost, if any, for future services that the Company has not yet recognized when the option is exercised, are assumed to be used to repurchase shares in the current period.

For all periods presented in this report, convertible notes, stock options, and warrants were not included in the computation of diluted net loss per share because such inclusion would have had an antidilutive effect.

	Year ended	
	December 31,	
	2016	2015
Excluded potentially dilutive securities (1):		
Convertible note - principal	702,247	-
Consulting warrants to purchase common stock	486,364	478,864
Options to purchase common stock	915,572	752,324
Financing and IPO warrants to purchase common stock	3,316,208	975,380
Total potential dilutive securities	<u>5,420,391</u>	<u>2,206,568</u>

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

### Segment and Geographic Information

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

### Recent accounting pronouncements

In January 2016, the FASB issued ASU No. 2016-01, Financial Instruments - Overall: Recognition and Measurement of Financial Assets and Financial Liabilities. The updated guidance enhances the reporting model for financial instruments, which includes amendments to address aspects of recognition, measurement, presentation and disclosure. The amendment to the standard is effective for the Company beginning on June 1, 2018. While the Company is currently assessing the impact of the new standard, it does not expect this new guidance to have a material impact on its consolidated financial statements.

In February 2016, the FASB issued ASU 2016-02 - Leases (ASC 842), which sets out the principles for the recognition, measurement, presentation and disclosure of leases for both parties to a contract (i.e. lessees and lessors). The new standard requires lessees to apply a dual approach, classifying leases as either finance or operating leases based on the principle of whether or not the lease is effectively a financed purchase by the lessee. This classification will determine whether lease expense is recognized based on an effective interest method or on a straight-line basis over the term of the lease, respectively. A lessee is also required to record a right-of-use asset and a lease liability for all leases with a term of greater than 12 months regardless of their classification. Leases with a term of 12 months or less will be accounted for similar to existing guidance for operating leases today. ASC 842 supersedes the previous leases standard, ASC 840 Leases. The standard is effective on January 1, 2019, with early adoption permitted. The Company is in the process of evaluating the impact of this new guidance.

In March 2016, the FASB issued ASU 2016-09, Compensation—Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting. The ASU includes multiple provisions intended to simplify various aspects of the accounting for share-based payments. While aimed at reducing the cost and complexity of the accounting for share-based payments, the amendments can significantly impact net income, EPS, and the statement of cash flows. For public companies, the amendments in this ASU are effective for annual periods beginning after December 15, 2016, and interim periods within those annual periods. Early adoption is permitted. The Company is in the process of evaluating the impact of this ASU on its financial statements but does not believe the impact will be material.

There were no other recent accounting pronouncements or changes in accounting pronouncements during the year ended December 31, 2016 that are of significance or potential significance to the Company.

### 3. Property and equipment, net

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

Asset Class	Useful Life (Years)	December 31,	
		2016	2015
Operational equipment	3-10	\$ 15,132	\$ 356
Lab equipment	5	547	52
Computer equipment	3	140	72
Office furniture and equipment	5	298	9
Leasehold improvements	5-7	1,408	1,086
Land	-	1,047	1,047
Building	39	21,962	5,681
Equipment under construction	10	1,635	4,390
		42,169	12,693
Less: accumulated depreciation		(777)	(90)
		<u>\$ 41,392</u>	<u>\$ 12,603</u>

Depreciation expense was \$687,000 and \$89,000 for the years ended December 31, 2016 and 2015, respectively. The Building is a 136,750 square foot lead acid battery recycling plant being built in McCarran, NV. Equipment under construction at December 31, 2016 is primarily AquaRefining modules manufactured by the Company to be used in the McCarran, NV recycling plant.

Certain costs necessary to make the recycling facility ready for its intended use have been capitalized, including interest expense on notes payable. Capitalized interest totaled \$508,000 and \$98,000 for the years ended December 31, 2016 and 2015, respectively. Capitalization of interest ceased upon completion of the building in early November 2016.

The Company has financed certain of its lab equipment purchases through the use of capital leases. The lease terms are generally between 24 and 36 months with an option to purchase the asset at the end of the lease for \$1. Total lab equipment included in the above table at December 31, 2016 subject to capital leases is \$392,000 less accumulated depreciation of \$36,000 resulting in net fixed assets under capital lease of \$356,000. These assets are depreciated using the same useful lives as noted above and included in depreciation expense. See Note 9 – Notes Payable for minimum future payments related to these equipment leases.

#### 4. Intellectual Property

On July 3, 2014, five of the founding stockholders contributed the rights to certain intellectual property to the Company in exchange for the issuance of 4,101,822 shares with a fair value of approximately \$1.1 million. This contribution was recorded as an intangible asset with an offset to additional paid in capital for \$0.6 million and deferred taxes for \$0.4 million. The fair market value of the intellectual property was determined by management with the assistance of an independent valuation specialist using an equal weighting of the incremental cash flow and relief from royalty methodologies.

Both methodologies used a discount rate of 50%. The discounted cash flow approach used a 10-year forecast and a 20% probability of achieving commercial success. The forecast assumed 85% of revenue is generated from sales of lead processed in Company owned and operated recycling plants and 15% of revenue is generated from license fees. The relief from royalty method used revenues equal to 50% of management's discounted cash flow forecast and a license rate of 1.5% of revenue.

The increase of \$200,000 and \$146,400 in 2016 and 2015 was due to fees associated with additional patent and trademark filings. The intellectual property balance is being amortized straight-line over a 10-year period.

Intellectual property, net, is comprised of the following for the dates indicated (in thousands):

	2016	2015
Intellectual property	\$ 1,419	\$ 1,219
Accumulated amortization	(282)	(154)
Intellectual property, net	<u>\$ 1,137</u>	<u>\$ 1,065</u>

Aggregate amortization expense for the year ended December 31, 2016 and 2015 was \$128,000 and \$110,000, respectively.

## 5. Other Assets

Other assets consist of the following (in thousands).

	December 31,	
	2016	2015
Alameda security deposit (1)	\$ 597	\$ 593
CD for Green Bank collateral security (2)	1,012	1,000
Nevada sales and use tax deposit	49	-
Facility Closure Trust deposit (3)	100	-
Various other assets	147	60
	<u>1,905</u>	<u>1,653</u>
Less: current portion (1)	<u>(275)</u>	<u>-</u>
Other assets, non-current	<u>\$ 1,630</u>	<u>\$ 1,653</u>

- (1) The lease deposit related to the Alameda headquarters will be released in three installments: \$275,000 at June 17, 2017, followed by \$275,000 in June 2018; and the remainder will be released at the end of the lease term. The current portion is included in Prepaid expenses and other current assets in the consolidated balance sheet.
- (2) The \$1.0 million certificate of deposit is held by Green Bank as collateral for the TRIC construction note payable balance. The deposit with Green Bank will be released after TRIC has three consecutive months of positive cash flow from operations.
- (3) The Company has entered into a Facility Closure Trust Agreement for the benefit of the Nevada Division of Conservation and Natural Resources (NDEP). Funds deposited in the Trust are to be available when and if needed, for closure and/or post-closure care of the facility related to potential decontamination and hazardous material cleanup. The Trustee will reimburse the Company or other persons as specified by the NDEP from the fund for closure and post-closure expenditures in such amounts as the NDEP shall direct in writing. In addition, the Trustee shall refund to the Company such amounts as the NDEP specifies in writing. \$100,000 was due upon establishment of the Trust Fund, on October 31, 2016; \$350,000 will be due and payable on October 31, 2017, and \$220,000 will be due on October 31, 2018.

## 6. Accrued liabilities

Accrued liabilities consist of the following (in thousands).

	December 31,	
	2016	2015
Fixed asset related	\$ 1,330	\$ -
Payroll related	359	81
Use tax accrual	156	-
Other	130	-
	<u>\$ 1,975</u>	<u>\$ 81</u>

## 7. Convertible Notes

As described more completely under the caption “Interstate Battery Agreements” below in Note 10, the Company issued to Interstate Battery System International, Inc. and its wholly-owned subsidiary (collectively “Interstate Battery”) a convertible note with a face amount of \$5.0 million and interest of 11% per annum due May 25, 2019. The note is convertible at \$7.12 per share of common stock. The Company allocated the proceeds from the Interstate Battery agreements to the convertible note, common stock and warrants comprising the financing agreements based on the relative fair value of the individual securities on the May 24, 2016 closing date of the agreements. Additionally, the convertible notes contained an embedded conversion feature having intrinsic value at the issuance date, which value the Company treated as an additional discount attributed to the convertible note, subject to limitations on the absolute amount of discount attributable to the convertible notes and its allocated value. The Company recorded a corresponding credit to additional paid-in capital attributable to the beneficial conversion feature (“BCF”). The discounts attributable to the convertible note, an aggregate of \$4,975,000, are being amortized using the effective interest method over the three-year term of the note, maturing on May 24, 2019. Because the discount on the convertible note exceeds 99% of its initial face value, and because the discount is amortized over the period from issuance to maturity, the calculated effective interest rate is 184.75% per annum.

Interest cost on the note for the year ended December 31, 2016 totaled \$343,000. Amortization of the note discount for the year ended December 31, 2016 totaled \$54,000. Amortization of the deferred financing costs, more fully described in Note 9, totaled \$27,000 for the year ended December 31, 2016.

The December 31, 2016 convertible note payable is comprised of the following (in thousands):

	<u>December 31, 2016</u>
Convertible note payable	\$ 5,000
Accrued interest	343
Deferred financing costs, net	(115)
Note discount	(4,921)
	<u>307</u>
Convertible note payable, non-current portion	<u>\$ 307</u>

As of December 31, 2016, the Interstate Battery convertible note’s “if-converted value” exceeded its principal amount by \$4.2 million.

### Private Placement Convertible notes

On October 31, 2014, the Company entered into a securities purchase agreement (the “Securities Purchase Agreement”) with accredited investors (the “Investors”), pursuant to which the Company issued an aggregate of \$6.0 million principal amount of senior secured convertible notes (the “Private Placement Convertible Notes”). In connection with the sale of the Private Placement Convertible Notes (the “Bridge Financing”), the Company entered into a registration rights agreement (the “Registration Rights Agreement”) and a security agreement (the “Security Agreement”) with the Investors. The closing of the Bridge Financing was completed October 31, 2014. Upon issuance, the Private Placement Convertible Notes bore simple interest at 6% per annum and upon the occurrence of any specified event of default, the Private Placement Convertible Notes would bear interest at 12% per annum and were scheduled to mature on December 31, 2015.

The principal, \$6.0 million, and interest, \$0.3 million, of the Private Placement Convertible Notes were converted into 2,511,871 shares of the Company’s common stock at a conversion price of \$2.50 per share on August 5, 2015 as part of the Company’s Initial Public Offering (“IPO”).

Pursuant to the terms of the Private Placement Convertible Notes, the conversion price was subject to adjustments in the event of an IPO, other financing and upon certain other events. The embedded conversion feature was not clearly and closely related to the host instrument and was bifurcated from the host Convertible Notes as a derivative, principally because the instrument's variable exercise price terms would not qualify as being indexed to the Company's own common stock. Accordingly, this conversion feature instrument was classified as a derivative liability in the consolidated balance sheet at December 31, 2014. Derivative liabilities were initially recorded at fair value and were then re-valued at each reporting date, with changes in fair value recognized in earnings during the reporting period.

The Company determined that the initial fair value of the embedded conversion option was \$0.2 million. From the aggregate principal amount of the Private Placement Convertible Notes of \$6.0 million, the Company deducted in full the fair value of the embedded conversion feature, and offering costs of \$0.8 million as a debt discount. The debt discount was amortized under the effective interest method over the term of the Convertible Notes. Upon completion of the IPO, all remaining unamortized debt discount and BCF were immediately expensed. The amount of issuance cost amortized as interest expense on the statements of operations was \$0.9 million for the year ended December 31, 2015.

The balance of Private Placement Convertible Notes as of December 31, 2014 was as follows (in thousands):

Face value of the Private Placement Convertible Notes	\$ 6,000
Debt discount and value of embedded option, net of amortization	(909)
Private Placement Convertible Notes, net	<u>\$ 5,091</u>

The Company calculated the fair value of the embedded conversion feature of the Private Placement Convertible Notes using the Monte Carlo simulation, with the observable assumptions as provided in the table below. The significant unobservable inputs used in the fair value measurement of the reporting entity's embedded conversion feature were expected stock prices, levels of trading and liquidity of the Company's stock. Significant increases in the expected stock prices and expected liquidity would result in a significantly higher fair value measurement. Significant increases in either the probability or severity of default of the host instrument would result in a significantly lower fair value measurement (Aggregate fair value in thousands).

	As of October 31, 2014	As of December 31, 2014
Fair value of stock price on valuation date	\$ 1.77	\$ 2.18
High collar	\$ 2.50	\$ 2.50
Low collar	\$ 1.67	\$ 1.67
Term (years)	0.75	0.58
Expected volatility	80%	80%
Weighted average risk-free interest rate	0.11%	0.14%
Trials	50,000	50,000
Aggregate fair value	\$ 212	\$ 1,109

The fair value of the embedded conversion feature at the time of the IPO and note conversion into common shares of the Company was \$6.3 million. The increase of \$5.2 million in fair value of the embedded conversion feature during 2015 until the IPO was recorded as a change in the fair value of derivative liabilities within the statements of operations.

On September 8, 2014, the Company entered into an agreement (the "Placement Agent Agreement") with National Securities Corporation ("NSC") pursuant to which the Company appointed NSC to act as the Company's placement agent in connection with the sale of the Company's securities ("Offering or Offerings"). Specifically, NSC was the placement agent in connection with the sale of its Private Placement Convertible Notes. The Placement Agent Agreement had an initial term of 180 days after which it will continue in effect until it's terminated by either party with 60 days written notice to the other party.

In connection with the sale of the Private Placement Convertible Notes, the Company paid NSC a cash fee of \$0.6 million and issued on October 31, 2014 to NSC warrants ("Financing Warrants") to purchase shares of the Company's common stock. NSC subsequently transferred a portion of the Financing Warrants to associated persons. The Financing Warrants were fully vested upon issuance, have a term of five years, and are immediately exercisable. The Financing Warrants were exercisable into 251,187 shares of the Company's common stock assuming an exercise price of \$3.00 per share (calculated as 120% of the Private Placement Convertible Notes conversion price of \$2.50 per share).

The warrant holders have certain registration rights with respect to the common stock issued upon exercise of the Financing Warrants.

The Company calculated the fair value of the Financing Warrants using a Black Scholes Merton model with the assumptions provided in the table below. The fair market value of the stock used prior to the IPO was from 409A valuations prepared by an outside consultant.

Provided below are the principal assumptions used in the initial and subsequent measurement of the fair values of the Financing Warrants (Warrants fair value in thousands):

	10/31/14	12/31/14	8/5/15
Fair market value of shares	\$ 1.77	\$ 2.18	\$ 5.00
Assumed exercise price	\$ 3.00	\$ 3.00	\$ 3.00
Term in years	5	4.84	4.25
Volatility	80%	80%	80%
Annual rate of dividends	0%	0%	0%
Discount rate	1.62%	1.65%	1.55%
Call option value	\$ 0.88	\$ 1.14	\$ 3.51
Warrant shares issuable	220,268	220,268	251,187
Warrants fair value	<u>\$ 212</u>	<u>\$ 276</u>	<u>\$ 881</u>

The initial fair value of the Financing Warrants was accounted for as a derivative issuance cost and along with the other private placement costs was amortized over the life of the Private Placement Convertible Notes. During the year ended December 31, 2015, the Company recorded an increase of \$0.6 million in the fair value of the Financing Warrant as a change in the fair value of derivative liabilities within the statements of operations. On August 5, 2015, after the conclusion of the IPO, the financing warrants fair value was fixed and the derivative liability of \$0.9 million was reclassified to additional paid-in capital.

As described in Note 16 – Subsequent Events, warrants totaling an aggregate of 25,119 shares were exercised on February 13, 2017 via a cashless exercise resulting in the issuance of 19,349 shares of the Company’s common stock.

#### 8. Deferred Rent

On August 7, 2015, the Company signed a lease for 21,697 square feet of mixed office and manufacturing space in Alameda, CA. The term of the lease is 76 months plus 6 months pre-commencement date for tenant improvement construction. The total cost of the lease is \$3.0 million which is being amortized over 82 months at approximately \$37,000 per month. As of December 31, 2016, the landlord had paid for \$0.9 million in tenant improvements. The tenant improvements cost has been included in owned assets and deferred rent and is being amortized over the life of the lease. Net deferred rent expense for the periods ended December 31, 2016 and 2015 was \$29,000 and \$163,000, respectively. The December 31, 2016 short term deferred rent balance of \$177,000 is included in current liabilities whereas the December 31, 2015 balance of negative \$38,000 was included in prepaid expenses and other current assets. The remaining liability of \$963,000 and \$1,071,000 at December 31, 2016 and 2015, respectively, is classified as long term deferred rent.

#### 9. Notes Payable

AMR entered into a \$10,000,000 loan with Green Bank on November 3, 2015. The term of the loan is twenty-one years. For the first twelve months only interest was payable; thereafter monthly payments of interest and principal are due. The interest rate adjusts on the first day of each calendar quarter equal to the greater of six percent (6%) or two percent (2%) per annum above the minimum prime lending rate charged by large U.S. money center commercial banks as published in the Wall Street Journal. The terms of the Loan Agreement contain various affirmative and negative covenants. Among them, AMR must maintain a minimum debt service coverage ratio of 1.25 to 1.0 (beginning with the twelve-month period ending March 31, 2017), a maximum debt-to-net worth ratio of 1.0 to 1.0 and a minimum current ratio of 1.5 to 1.0. AMR was in compliance with all covenants as of and for the years ending December 31, 2016 and 2015.

The net proceeds of the loan was deposited into an escrow account at Green Bank. The funds are being released as payment for the building being constructed in McCarran, NV to house AMR’s lead acid recycling operation. Collateral for this loan is AMR’s accounts receivable, goods, equipment, fixtures, inventory, accessions and a certificate of deposit in the amount of \$1,000,000.

The loan is guaranteed by the United States Department of Agriculture Rural Development (“USDA”), in the amount of 90% of the principal amount of the loan. The Company paid a guarantee fee to the USDA in the amount of \$270,000 at the time of closing and will be required to pay to the USDA an annual fee in the amount of 0.50% of the guaranteed portion of the outstanding principal balance of the loan as of December 31 of each year.

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

	December 31,	
	2016	2015
<b>Notes payable, current portion</b>		
Thermo Fisher Financial Service	\$ 137	\$ 16
Green Bank, net of issuance costs	170	29
	<u>\$ 307</u>	<u>\$ 45</u>
<b>Notes payable, non-current portion</b>		
Thermo Fisher Financial Service	\$ 138	\$ 1
Green Bank, net of issuance costs	9,100	9,221
	<u>\$ 9,238</u>	<u>\$ 9,222</u>

The Thermo Fisher Financial Service obligations relate to capital leases further discussed in Note 4 – Property and Equipment, net. The costs associated with obtaining the Green Bank loan of \$756,000 were recorded as a reduction to the carrying amount of the note and are being amortized as interest expense within the condensed consolidated statements of operations over the twenty-one year life of the loan. Amortization of the deferred financing costs totaled \$35,000 and \$9,000 for the years ended December 31, 2016 and 2015, respectively.

The future principal payments related to the Green Bank and Thermo Fisher Financial Service notes are as follows as of December 31, 2016 (in thousands):

2017	\$ 307
2018	308
2019	202
2020	203
2021	217
Thereafter	9,020
<b>Total loan payments</b>	<u><b>\$ 10,257</b></u>

#### 10. Stockholders' Equity

##### **Authorized capital**

The holders of the Company's common stock are entitled to one vote per share. Holders of common stock are entitled to receive a ratable share of dividends, if any, as may be declared by the board of directors.

On June 24, 2015, the Company had a reverse stock split whereby each share of issued common stock was converted into 0.91 shares of common stock of the Company. All share and per share amounts in the period preceding the stock split have been adjusted to reflect the split retroactively.

On June 9, 2015, the Company filed a registration statement on form S-1 with the Securities and Exchange Commission. The registration was for the sale of 6,600,000 shares of common stock to raise proceeds of \$33,000,000 at an issue price of \$5.00 per share. On July 31, 2015, the common shares of the Company began trading on the NASDAQ capital markets. On July 31, 2015, the Company sold 6,600,000 shares of common stock for \$33,000,000 less commissions of \$2,525,000 and expenses of \$577,000 for net proceeds of \$29,898,000. The form S-1 included an over-allotment option of 990,000 common shares. On August 13, 2015, the Company sold 641,930 shares of the over-allotment option for \$3,210,000 less commissions of \$246,000 for net proceeds of \$2,964,000.

On November 2, 2015, the Company issued 20,000 shares of common stock to Insight Capital Consultants Corporation for work performed for the Company.

## Interstate Battery Agreements

### *Investment Agreement*

The Company entered into a Credit Agreement dated May 18, 2016 with Interstate Battery pursuant to which Interstate Battery loaned the Company \$5,000,000 in consideration of the Company's issuance of a secured convertible promissory note in the original principal amount of \$5,000,000. The note bears interest at the rate of eleven percent (11%) per annum, compounding monthly, and all interest is payable upon the earlier of maturity or conversion of the principal amount. The loan matures on May 24, 2019. The outstanding principal is convertible into shares of the Company's common stock at a conversion price of \$7.12 per share. The Company's obligations under the note and Credit Agreement are secured by a second priority lien on the real estate, fixtures and equipment at the Company's recycling facility at McCarran, Nevada. The Credit Agreement includes representations, warranties, and affirmative and negative covenants that are customary of institutional credit agreements.

Pursuant to the Credit Agreement, the Company also issued to Interstate Battery two common stock purchase warrants, including:

- a warrant to purchase 702,247 shares of the Company's common stock, at an exercise price of \$7.12 per share, that is exercisable upon grant and expires on May 24, 2018; and
- a warrant to purchase 1,605,131 shares of the Company's common stock, at an exercise price of \$9.00 per share, that is exercisable commencing November 24, 2016 and expires on May 24, 2019.

The warrants contain cashless exercise and standard anti-dilution adjustment provisions. If Interstate converts its convertible note and exercises both warrants in their entirety, it will own slightly less than 20% of the Company's common stock at an average price per share of approximately \$7.93.

The Company also entered into a Stock Purchase Agreement dated May 18, 2016 with Interstate Battery pursuant to which the Company issued and sold to Interstate Battery 702,247 shares of the Company's common stock at \$7.12 per share for gross proceeds of approximately \$5,000,000. The Stock Purchase Agreement includes customary representations, warranties, and covenants by Interstate Battery and us, and an indemnity from us in favor of Interstate Battery.

In connection with the investment transactions, the Company also entered into an Investors Rights Agreement dated May 18, 2016 with Interstate Battery pursuant to which the Company granted Interstate Battery customary demand and piggyback registration rights, limited board observation rights over the next three years and limited preemptive rights allowing Interstate Battery the right to purchase its proportional share of certain future equity issuances by the Company over the next three years. The Company included all of the Interstate Battery shares in its S-3 Registration Statement filed with the Securities and Exchange Commission on August 1, 2016.

The investment transactions with Interstate Battery closed on May 24, 2016. There were no sales commissions paid by the Company in connection with its sale of securities to Interstate Battery.

The Company allocated the \$10.0 million proceeds from the Credit Agreement and Stock Purchase Agreement, to the various securities based on their relative fair values on the closing date of May 24, 2016.

- The fair value of the note was calculated using an average of the Merrill Lynch US High Yield CCC rate of 16.21% on May 24, 2016 and the Merrill Lynch US High Yield B effective yield of 7.44% on May 24, 2016.
- The fair value of the common stock was based on the closing market price of the Company's common stock on the NASDAQ stock market on May 24, 2016.

The fair value of the warrants using the Black-Scholes-Merton Option Pricing Model and the assumptions are listed in the table below (FV of warrant in thousands).

	Warrant #1	Warrant #2
Warrant shares issued	702,247	1,605,131
Market price	\$ 11.39	\$ 11.39
Exercise price	\$ 7.12	\$ 9.00
Term (years)	2	3
Risk-free interest rate	0.91%	1.05%
Volatility	65.70%	67.80%
Dividend rate	0%	0%
Per share FV of warrant	\$ 5.89	\$ 5.89
FV of warrant	\$ 4,136	\$ 9,450

Both warrants were issued on May 24, 2016, when the closing market price of our stock was \$11.39.

The table below presents the allocation of the proceeds based on the relative fair values of the stock, warrants and note (in thousands).

	Fair value	Allocated value
<u>Allocation of Proceeds</u>		
Convertible note	\$ 4,879	\$ 1,844
Warrants	13,586	5,134
Common stock	7,998	3,022
	<u>\$ 26,463</u>	<u>\$ 10,000</u>

The difference between the face value of the convertible note and the allocated amount (which considers both the allocated fair value of the issued stock and allocated fair value of the warrants) was recorded as an initial discount to the convertible note; common stock was recorded at its allocated fair value as a credit to par value and additional paid-in capital as appropriate, based on the number of shares issued, and the allocated fair value of the warrant was credited to additional paid-in capital. After taking into consideration the amortization of the note discount, the effective interest rate on the convertible note is 184.75%.

The convertible note includes an embedded BCF. The intrinsic value of the BCF was treated as an additional component of the discount attributable to the convertible note. The initial discount (attributable to the stock and warrants as noted above) and the discount attributable to the BCF exceeds the face amount of the convertible note. To avoid reducing the initial net carrying value of the convertible note to or below zero, the discount attributable to the BCF was limited such that the aggregate of all discounts does not exceed 99.5% of the face amount of the convertible note. The discount is being accreted to interest expense using the effective interest method over the three-year life of the loan. If the loan is converted prior to its maturity, any remaining discount will be expensed immediately.

Costs incurred in connection with the deal of \$771,000 were allocated between additional paid-in capital and prepaid financing/ debt discount ("debt issuance costs") in the same manner as the above allocation of proceeds. The allocated debt issuance costs of \$142,000 were recorded as a reduction to the carrying amount of the convertible note and are being amortized as interest expense within the condensed consolidated statements of operations over the three-year life of the loan. The remaining \$629,000 was recorded as a reduction to additional paid-in capital.

#### National Securities Placement

On May 18, 2016, the Company entered into a Stock Purchase Agreement and a Registration Rights Agreement with certain accredited investors pursuant to which the Company issued and sold to the investors 719,333 shares of its common stock at a price of \$7.12 per share for the gross proceeds of approximately \$5,122,000. The Stock Purchase Agreement includes customary representations, warranties, and covenants by the investors and the Company, and an indemnity from the Company in favor of the investors. The private placement closed on May 24, 2016. The Company included all of these shares in its S-3 Registration Statement filed with the Securities and Exchange Commission on August 1, 2016.

National Securities Corporation acted as placement agent for the private placement and received sales commission in the amount of six percent (6%) of the gross proceeds, or a total of \$307,000 in commissions from us. In addition, we reimbursed National Securities for its out-of-pocket expenses and legal fees in the aggregate amount of \$38,000. The total costs of \$345,000 have been recorded as a reduction to additional paid-in capital.

### Public Offering

On November 21, 2016, the Company completed a public offering of 2.3 million shares of its common stock at a public offering price of \$10.00 per share. Net proceeds to the Company from the public offering were approximately \$21.5 million after deducting underwriting discounts, commissions and offering expenses. In connection with the public offering, the underwriter received a fee of \$1.4 million and a warrant to purchase 33,450 shares of the Company's common stock at \$10.00 per share that is exercisable commencing May 20, 2017 and expires on November 21, 2019. The fair value of the warrant, \$229,000, was recorded as an increase to offering expenses and an increase to additional paid-in capital. The Company calculated the fair value of the warrant using a BlackScholes Merton model with the assumptions as follows: \$12.66 closing market value on the date of grant; 3-year term; 72% volatility; 1.36 discount rate and 0% annual dividend rate.

### **Warrants issued**

On September 8, 2014, the Company entered into a consulting agreement with Liquid Patent Consulting, LLC ("LPC"), pursuant to which LPC agreed to provide management, strategic and intellectual property advisory services. The Consulting Agreement had an initial term of 180 days after which it will continue in effect until it is terminated by either party with 30 days written notice to the other party.

As consideration for services provided under the Consulting Agreement the Company issued warrants ("Consulting Warrants") to LPC for the purchase of an aggregate of 436,364 shares of the Company's common stock. LPC subsequently transferred a portion of the Consulting Warrants to a third party. The Consulting Warrants vested upon issue, have a term of three years, an exercise price of \$0.0034375 per share and are immediately exercisable, provided that upon the Company's consummation of an IPO, the Consulting Warrants may not be exercised until 90 days after the consummation of the IPO. The Consulting Warrants may be exercised on a cashless basis. As described in Note 16 – Subsequent Events, warrants totaling an aggregate of 392,728 shares were exercised on February 10, 2017 via a cashless exercise resulting in the issuance of 392,605 shares of the Company's common stock.

In connection with underwriting the IPO, the Company issued on August 5, 2015 to NSC warrants ("IPO Warrants") to purchase 660,000 shares of the Company's common stock at an exercise price of \$6.00 per share. The IPO Warrants were fully vested upon issuance, are not exercisable until July 30, 2016 and have a term of five years. The registration statement with the Securities and Exchange Commission included an over-allotment of shares available for sale in addition to the IPO. On August 13, 2015, the Company issued warrants to NSC ("O-A Warrants") to purchase 64,193 shares of the Company's common stock at an exercise price of \$6.00 per share for underwriting the over-allotment sale of shares. The O-A Warrants were fully vested upon issuance, are not exercisable until July 30, 2016 and have a term of five years. The fair values were recorded as an increase to IPO costs and or increase to additional paid in capital. As described in Note 16 – Subsequent Events, warrants totaling an aggregate of 72,420 shares were exercised on February 13, 2017 via a cashless exercise resulting in the issuance of 39,154 shares of the Company's common stock. An additional 65,177 of these warrants were exercised on February 15, 2017 via a cashless exercise resulting in the issuance of 41,856 shares of the Company's common stock.

On October 31, 2015, the Company issued warrants to a consultant to purchase 12,500 shares of the Company's common stock at an exercise price of \$6.00 per share. The warrants were fully vested on issuance and expire on July 30, 2018. The fair value of the warrants, calculated by the Black-Scholes-Merton method, \$28,000 was recorded to business development and management costs and additional paid in capital in 2015. As described in Note 16 – Subsequent Events, warrants totaling an aggregate of 12,500 shares were exercised on February 16, 2017 via a cashless exercise resulting in the issuance of 8,025 shares of the Company's common stock.

On November 2, 2015, the Company issued warrants to a consultant to purchase 30,000 shares of the Company's common stock at an exercise price of \$6.00. The warrants were fully vested upon issuance and have a term of one year. The fair value of the warrants, calculated by the Black-Scholes-Merton method, \$36,000 was recorded to business development and management costs and additional paid in capital in 2015. As noted below in the "warrants exercised" section, all of these warrants were exercised in June 2017.

Provided below are the principal assumptions used in the measurement of the fair values of the warrants issued during 2015 (Warrants fair value in thousands).

	Consulting 09/08/14	IPO 08/05/15	O-A 08/13/15	Consulting 10/31/15	Consulting 11/02/15
Fair market value of shares	\$ 1.64	\$ 5.00	\$ 5.36	\$ 5.00	\$ 4.89
Assumed exercise price	\$ 0.0034375	\$ 6.00	\$ 6.00	\$ 3.00	\$ 6.00
Term in years	3	5	5	2.75	1
Volatility	80%	80%	80%	80%	80%
Annual rate of dividends	0%	0%	0%	0%	0%
Discount rate	1.02%	1.64%	1.57%	1.26%	1.26%
Call option value	\$ 1.49	\$ 3.05	\$ 3.34	\$ 2.28	\$ 1.21
Warrant shares issued	436,364	660,000	64,193	12,500	30,000
Warrants fair value	\$ 714	\$ 2,014	\$ 214	\$ 28	\$ 36

Warrants to purchase 12,500 of the Company's common stock were issued on January 31, 2016, April 30, 2016 and July 31, 2016, all with an exercise price of \$6.00 per share. The warrants were fully vested upon issuance and expire, if not exercised, on July 31, 2018. As described in Note 16 – Subsequent Events, warrants totaling an aggregate of 22,500 shares were exercised on February 16, 2017 via a cashless exercise resulting in the issuance of 14,445 shares of the Company's common stock.

The following assumptions were used in the Black-Scholes-Merton pricing model to estimate the fair value of the warrant (FV of warrant in thousands).

	1/31/2016	4/30/2016	7/31/2016
Warrant shares issued	12,500	12,500	12,500
Market price	\$ 4.63	\$ 8.37	\$ 9.31
Exercise price	\$ 6.00	\$ 6.00	\$ 6.00
Term (years)	1.25	2.25	2.00
Risk-free interest rate	0.97%	0.77%	0.72%
Volatility	80.00%	80.00%	80.00%
Dividend rate	0%	0%	0%
Per share FV of warrant	\$ 1.24	\$ 4.58	\$ 5.19
FV of warrant	\$ 16	\$ 57	\$ 65

The fair value of each of the warrants was recorded as increase to business development and management costs and increase in additional paid in-capital.

As noted in the preceding section, warrants to purchase 2,305,378 and 33,450 shares of the Company's common stock were also issued for the Interstate Battery deal and the November 2016 Public Offering, respectively, during 2016. Please refer to the above section for specific valuation assumptions for these warrants.

## Warrants exercised

On June 7, 2016, when the five-day average of closing prices for the Company's common stock was \$12.16 per share, 15,203 shares of the Company's common stock were issued pursuant to a cashless exercise of a warrant for 30,000 shares of the Company's common stock with an exercise price of \$6.00 per share.

## Stock based compensation

In 2014, the Board of Directors adopted the Company's stock incentive plan (the "2014 Plan") under which a maximum of 1,363,637 shares of common stock were authorized for issuance. The 2014 Plan provides for the following types of stock-based awards: incentive stock options; non-statutory stock options; restricted stock; and performance stock. The 2014 Plan, under which equity incentives may be granted to employees and directors under incentive and non-statutory agreements, requires that the option price may not be less than the fair value of the stock at the date the option is granted. Option awards are exercisable until their expiration, which may not exceed 10 years from the grant date.

The stock-based compensation expense recorded was allocated as follows (in thousands):

	Year ended December 31,	
	2016	2015
Operations and development costs	\$ 256	\$ 119
General and administrative expense	804	182
Total	<u>\$ 1,060</u>	<u>\$ 301</u>

The following assumptions were used in the Black-Scholes-Merton option pricing model to estimate the fair value of the awards granted during the year ended December 31, 2016 and 2015.

	2016	2015
Expected stock volatility	71.2% - 80.0%	80%
Risk free interest rate	0.92% - 1.77%	1.32% - 1.75%
Expected years until exercise	2.5 - 4.0	3.42 - 3.5
Dividend yield	0%	0%

The risk-free interest rate assumption was based on the United States Treasury's zero-coupon bonds with maturities similar to those of the expected term of the award being valued. The assumed dividend yield was based on the Company's expectation of not paying dividends in the foreseeable future. The weighted-average expected life of the options was calculated using the simplified method as prescribed by the Securities and Exchange Commission ("SEC") Staff Accounting Bulletin No. 107 and No. 110 ("SAB No. 107 and 110"). This decision was based on the lack of relevant historical data due to the Company's limited historical experience. In addition, due to the Company's limited historical data, the estimated volatility also reflects the application of SAB No. 107 and 110, using the weighted average of the Company's historical volatility and the historical volatility of several unrelated public companies within the recycling industry.

The following table summarizes the stock option activity and related information through December 31, 2016.

	Number of Shares Available for Grant	Options Outstanding	
		Number of Shares	Weighted- Average Exercise Price Per Share (\$)
Balance at December 31, 2014			
Options authorized	1,363,637		
Options granted	(777,779)	777,779	\$ 3.94
Options forfeited	25,455	(25,455)	3.56
Balance at December 31, 2015	611,313	752,324	3.95
Options granted	(229,497)	229,497	8.56
Options exercised	-	(4,500)	4.18
Options forfeited	61,749	(61,749)	6.14
Balance at December 31, 2016	443,565	915,572	\$ 4.96

The weighted-average grant-date fair value of options granted during the year ended December 31, 2016 was \$4.47 per share. The intrinsic value of options exercised during the year ended December 31, 2016 was \$22,000. There were no stock option exercises during the year ended December 31, 2015. The amount of cash received from exercise of stock options during the year ended December 31, 2016 was \$19,000.

Additional information related to the status of options at December 31, 2016 is as follows:

	Shares	Weighted- Average Exercise Price Per Share	Weighted- Average Remaining Contractual Life (Years)	Aggregate Intrinsic Value (in thousands)
Outstanding	915,572	\$ 4.96	3.73	\$ 7,465
Vested and exercisable	338,099	\$ 4.46	3.83	\$ 2,925

The intrinsic value of options is the fair value of the Company's stock at December 31, 2016 less the per share exercise price of the option multiplied by the number of shares.

As of December 31, 2016, there is approximately \$1.1 million of total unrecognized compensation cost related to the unvested share-based compensation arrangements granted under the 2014 Plan. The remaining unrecognized compensation cost will be recognized over a weighted-average period of 2.0 years.

The following table summarizes information about stock options outstanding as of December 31, 2016:

Range of Exercise Prices	Options Outstanding		Options Exercisable	
	Quantity	Weighted-Average Remaining Contractual Life (Years)	Quantity	Weighted-Average Remaining Contractual Life (Years)
\$3.56	559,047	3.42	197,670	3.71
\$3.92 - \$5.07	112,662	3.87	95,996	3.94
\$5.08 - \$8.04	84,335	3.96	17,001	3.74
\$8.05 - \$8.82	79,236	4.41	27,432	4.33
\$8.83 - \$12.72	80,292	4.77	-	-
	<u>915,572</u>	<u>3.73</u>	<u>338,099</u>	<u>3.83</u>

#### Option modification

During the three months ended June 30, 2016, the Compensation Committee of the Board of Directors approved the modification of the terms of a stock option previously granted to a member of its Board of Directors to accelerate vesting and the waiver of the early termination of the option based upon the director's end of service to the Company. The modification resulted in additional compensation expense of \$175,000.

### 11. Commitments and Contingencies

#### Lease commitments

As discussed in Note 8, On August 7, 2015, the Company signed a lease for 21,697 square feet of mixed office and manufacturing space in Alameda, CA. On October 10, 2014, the Company entered into an operating lease for its current Oakland facility through April 2018. The future minimum payments related to these leases are as follows as of December 31, 2016 (in thousands):

2017	\$ 515
2018	504
2019	506
2020	522
2021	538
Thereafter	227
Total minimum lease payments	<u>\$ 2,812</u>

During the years ended December 31, 2016 and 2015, the Company has incurred total rent expense of \$340,000 and \$232,000, respectively.

See Note 9 for lease commitments associated with capital leases for fixed assets.

#### Legal proceedings

The Company is not subject to any legal proceedings as of December 31, 2016.

## 12. Related Party Transactions

Related party transactions comprised the following for the years ended December 31, 2016 and 2015:

- a series of transactions with Interstate Battery and its affiliate, a greater than five percent owner of our common shares described at “Management’s Discussion and Analysis of Financial Condition and Results of Operations – General - Interstate Battery Partnership” in this Form 10-K; and
- the payment of \$156,000 of salary, bonus and consulting fees during the year ended December 31, 2016 and \$98,000 of consulting fees during the year ended December 31, 2015 to an employee who is the brother of the Company’s chief executive officer.

The Company has adopted a policy that any transactions with directors, officers, beneficial owners of five percent or more of our common shares, any immediate family members of the foregoing or entities of which any of the foregoing are also officers or directors or in which they have a financial interest, will only be on terms consistent with industry standards and approved by a majority of the disinterested directors of our board.

## 13. Income Taxes

Net loss before tax provision consists of the following (in thousands):

	Year ended December 31,	
	2016	2015
US	\$ (13,556)	\$ (12,329)
Foreign	-	-
Total	<u>\$ (13,556)</u>	<u>\$ (12,329)</u>

The components of the provision for income tax expense consist of the following for the periods indicated (in thousands):

	Year ended December 31,	
	2016	2015
Current		
Federal	\$ -	\$ -
State	1	3
Deferred		
Federal	-	-
State	-	-
Total provision for income taxes	<u>\$ 1</u>	<u>\$ 3</u>

Reconciliation of the statutory federal income tax rates consist of the following for the periods indicated:

	Year ended December 31,	
	2016	2015
Tax at federal statutory rate	34.00%	34.00%
State tax, net of federal benefit	-0.01%	5.83%
Change in derivative liability	0%	-18.66%
Change in rate	-1.30%	0%
Valuation allowance	-30.70%	-20.53%
Other	-2.00%	-0.65%
Provision for taxes	<u>-0.01%</u>	<u>-0.01%</u>

The components of deferred tax assets (liabilities) included on the consolidated balance sheet are as follows (in thousands):

	Year ended December 31,	
	2016	2015
<b>Deferred tax assets</b>		
Capitalized start-up costs	\$ 4,640	\$ 1,840
Credits	127	58
Net operating losses	1,730	771
Warrants	299	284
Others	666	111
Total gross deferred tax assets	<u>7,462</u>	<u>3,064</u>
Valuation allowance	<u>(6,175)</u>	<u>(2,682)</u>
Total gross deferred tax assets (net of valuation allowance)	<u>\$ 1,287</u>	<u>\$ 382</u>
<b>Deferred tax liabilities</b>		
Patents	(350)	(382)
Fixed assets	(325)	-
Beneficial conversion feature - debt discount	(612)	-
Total gross deferred tax liabilities	<u>(1,287)</u>	<u>(382)</u>
Net deferred tax assets	<u>\$ -</u>	<u>\$ -</u>

Based on the available objective evidence at this time, management believes that it is more likely than not that the deferred tax assets of the Company will not be fully realized. Accordingly, management has applied a full valuation allowance against net deferred tax assets at both December 31, 2016 and December 31, 2015.

The Company has Federal and California net operating loss carry-forwards of approximately \$4.9 million and \$1.8 million, respectively, available to reduce future taxable income which will begin to expire in December 31, 2034 for Federal and California purposes.

At December 31, 2015, the Company had research and development credits carryforward of approximately \$59,000 and \$186,000 for Federal and California income tax purposes, respectively. If not utilized, the Federal research and development credits carryforward will begin to expire in December 31, 2034. The California credits can be carried forward indefinitely.

Utilization of the Company's net operating loss may be subject to substantial annual limitation due to the ownership change limitations provided by the Internal Revenue Code and similar state provisions. Such an annual limitation could result in the expiration of net operating loss carryforwards prior to utilization.

The Company's policy is to account for interest and penalties as income tax expense. As of December 31, 2016, the Company had no interest related to unrecognized tax benefits. No amounts of penalties related to unrecognized tax benefits were recognized in the provision for income taxes.

The Company maintains liabilities for uncertain tax positions. These liabilities involve considerable judgement and estimation and are continuously monitored by management based on the best information available, including changes in tax regulations, the outcome of relevant court cases, and other information. The Company recognizes potential accrued interest and penalties related to unrecognized tax benefits as income tax expense. At December 31, 2016, the Company's total amount of unrecognized tax benefit was approximately \$73,000, none of which will affect the effective tax rate, if recognized. The Company does not expect its unrecognized benefits to change materially over the next twelve months.

The Company files income tax returns with the United States federal government and the State of California. The Company's tax returns for the prior years remain open to audit for Federal and California purposes.

The Company is making the election to early adopt ASU 2015-17 to classify all deferred tax assets and liabilities, along with any related valuation allowance, as noncurrent on the balance sheet.

#### 14. 401(k) Savings Plan

The Company maintains a defined-contribution savings plan under Section 401(k) of the Internal Revenue Code (the "401(k) Plan"). The 401(k) Plan covers all employees who meet defined minimum age and service requirements, and allows participants to defer a portion of their annual compensation on a pretax basis. The Plan does not currently provide for matching contributions.

#### 15. Supplemental Financial Information

##### Quarterly Results of Operations (Unaudited)

The following table presents the unaudited statements of operations data for each of the eight quarters in the period ended December 31, 2016. The information has been presented on the same basis as the audited financial statements and all necessary adjustments, consisting only of normal recurring adjustments, have been included in the amounts below to present fairly the unaudited quarterly results when read in conjunction with the audited financial statements and related notes. The operating results for any quarter should not be relied upon as necessarily indicative of results for any future period.

Unaudited Quarterly Results of Operations  
(in thousands, except share and per share amounts)

	Three months ended				Total for year 2016
	March 31, 2016	June 30, 2016	September 30, 2016	December 31, 2016	
<b>Operating expenses</b>					
Operations and development costs	883	1,309	1,887	2,269	6,348
General and administrative expense	1,295	1,516	1,434	2,365	6,610
Total operating expenses	<u>2,178</u>	<u>2,825</u>	<u>3,321</u>	<u>4,634</u>	<u>12,958</u>
Loss from operations	<u>(2,178)</u>	<u>(2,825)</u>	<u>(3,321)</u>	<u>(4,634)</u>	<u>(12,958)</u>
<b>Other income and expense</b>					
Interest expense	(2)	(112)	(203)	(322)	(639)
Interest and other income	7	6	7	21	41
Total other income (expense), net	<u>5</u>	<u>(106)</u>	<u>(196)</u>	<u>(301)</u>	<u>(598)</u>
Loss before income tax expense	(2,173)	(2,931)	(3,517)	(4,935)	(13,556)
Income tax expense	(1)	-	-	-	(1)
Net loss	<u>(2,174)</u>	<u>(2,931)</u>	<u>(3,517)</u>	<u>(4,935)</u>	<u>(13,557)</u>
<b>Weighted average shares outstanding, basic and diluted</b>					
	<u>14,137,442</u>	<u>14,735,077</u>	<u>15,574,620</u>	<u>16,603,725</u>	<u>15,267,233</u>
Basic and diluted net loss per share	<u>\$ (0.15)</u>	<u>\$ (0.20)</u>	<u>\$ (0.23)</u>	<u>\$ (0.30)</u>	<u>\$ (0.89)</u>

	Three months ended				Total for year 2015
	March 31, 2015	June 30, 2015	September 30, 2015	December 31, 2015	
<b>Operating expenses</b>					
Operations and development costs	214	422	546	1,098	2,280
General and administrative expense	472	640	777	1,282	3,171
Total operating expenses	686	1,062	1,323	2,380	5,451
Loss from operations	(686)	(1,062)	(1,323)	(2,380)	(5,451)
<b>Other income and expense</b>					
Increase in fair value of derivative liabilities	(3,896)	(1,603)	(277)	-	(5,776)
Interest expense	(317)	(318)	(492)	(1)	(1,128)
Interest and other income	2	1	8	15	26
Total other expense, net	(4,211)	(1,920)	(761)	14	(6,878)
Loss before income tax expense	(4,897)	(2,982)	(2,084)	(2,366)	(12,329)
Income tax expense	(2)	-	-	(1)	(3)
Net loss	(4,899)	(2,982)	(2,084)	(2,367)	(12,332)
Weighted average shares outstanding, basic and diluted	4,363,641	4,363,641	10,759,187	14,130,485	8,404,311
Basic and diluted net loss per share	\$ (1.12)	\$ (0.68)	\$ (0.19)	\$ (0.17)	\$ (1.47)

## 16. Subsequent Events

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

### Investment Agreement

On February 7, 2017, the Company entered into a Stock Purchase Agreement with Johnson Controls pursuant to which the Company issued and sold to two wholly-owned subsidiaries of Johnson Controls International plc, ("Johnson Controls"), 939,005 shares of its common stock at \$11.33 per share for the gross proceeds of approximately \$10.6 million. The Stock Purchase Agreement includes customary representations, warranties, and covenants by Johnson Controls and us, and an indemnity from the Company in favor of Johnson Controls.

In connection with the investment transactions, the Company also entered into an Investors Rights Agreement dated February 7, 2017 with Johnson Controls pursuant to which the Company granted Johnson Controls customary demand and piggyback registration rights, limited board observation rights and limited preemptive rights allowing Johnson Controls the right to purchase its proportional share of certain future equity issuances by the Company. The Investor Rights Agreement also provides that the Company must make certain payments as liquidated damages to Johnson Controls if it fails to file the registration statement within 20 days of the close of the investment or if Rule 144 under the Securities Act of 1933 ("Securities Act") should become unavailable for the resale of the common shares. All of the Johnson Control shares were included in the Form S-3 Registration Statement filed with the Securities and Exchange Commission on February 27, 2017. The board observation and preemptive rights shall expire on the earlier of (i) such time as Johnson Controls no longer owns 50% of the acquired shares or (ii) the termination of both the Tolling/Lead Purchase Agreement and Equipment Supply Agreement.

The investment transaction with Johnson Controls closed on February 7, 2017. There were no sales commissions paid by us in connection with the sale of our common shares to Johnson Controls.

Warrants exercised

Subsequent to December 31, 2016 through the date of this report, 515,434 shares have been issued pursuant to cashless warrant exercises as detailed below. Generally, the warrants specify using the preceding five-day average of closing prices for the Company's common stock in the calculation of common stock to be issued pursuant to a cashless exercise.

<u>Date</u>	<u>Average closing market price</u>	<u>Exercise Price</u>	<u>Warrant Exercised</u>	<u>Common Shares Issued</u>
2/10/2017	\$ 11.016	\$ 0.0034375	392,728	392,605
2/13/2017	\$ 13.062	\$ 3.00	25,119	19,349
2/13/2017	\$ 13.062	\$ 6.00	72,420	39,154
2/15/2017	\$ 16.768	\$ 6.00	65,177	41,856
2/16/2017	\$ 16.768	\$ 6.00	35,000	22,470
			<u>590,444</u>	<u>515,434</u>

**Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure**

Not applicable.

**Item 9A. Controls and Procedures**

*(a) Evaluation of Disclosure Controls and Procedures.*

Our management, with the participation of our chief executive officer and chief financial officer evaluated the effectiveness of our disclosure controls and procedures pursuant to Rule 13a-15 under the Securities Exchange Act of 1934, as amended (the “Exchange Act”). Based upon that evaluation, our management, including our chief executive officer and chief financial officer, concluded that for the reasons described below our disclosure controls and procedures were effective as of December 31, 2016 in ensuring all material information required to be filed has been made known in a timely manner.

*(b) Changes in internal control over financial reporting.*

There were no changes to our internal control over financial reporting, as defined in Rules 13a-15(f) under the Exchange Act that occurred during the fiscal quarter ended December 31, 2016 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

*(c) Management’s report on internal controls over financial reporting.*

Our management is responsible for establishing and maintaining adequate internal controls over financial reporting, as defined under Rule 15a-15(f) under the Exchange Act. Our management has assessed the effectiveness of our internal controls over financial reporting as of December 31, 2016 based on the framework established in Internal Control - Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (“COSO”). Our internal control system was designed to provide reasonable assurance to our management and board of directors regarding the preparation and fair presentation of published financial statements. An internal control material weakness is a significant deficiency, or aggregation of deficiencies, that does not reduce to a relatively low level the risk that material misstatements in financial statements will be prevented or detected on a timely basis by employees in the normal course of their work. Our management assessed the effectiveness of our internal control over financial reporting as of December 31, 2016, and based on that evaluation, management concluded that our internal control over financial reporting was effective as of December 31, 2016.

This report does not include an attestation report of our registered public accounting firm regarding internal control over financial reporting. Management’s report was not subject to attestation by our registered public accounting firm pursuant to the rules of the Securities and Exchange Commission that permit us to provide only management’s report in this annual report.

**Item 9B. Other Information**

Not applicable.

### **PART III**

The information required by Part III is omitted from this report because we will file a definitive proxy statement within 120 days after the end of our 2016 fiscal year pursuant to Regulation 14A for our 2017 Annual Meeting of Stockholders, or the 2016 Proxy Statement, and the information to be included in the 2016 Proxy Statement is incorporated herein by reference.

**Item 10. Directors, Executive Officers and Corporate Governance**

The information required by this item will be contained in the 2017 Proxy Statement and is hereby incorporated by reference.

**Item 11. Executive Compensation**

The information required by this item will be contained in the 2017 Proxy Statement and is hereby incorporated by reference.

**Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters**

The information required by this item will be contained in the 2017 Proxy Statement and is hereby incorporated by reference.

**Item 13. Certain Relationships and Related Transactions, and Director Independence**

The information required by this item will be contained in the 2017 Proxy Statement and is hereby incorporated by reference.

**Item 14. Principal Accountant Fees and Services**

The information required by this item will be contained in the 2017 Proxy Statement and is hereby incorporated by reference.

## PART IV

### Item 15. Exhibits and Financial Statement Schedules

#### (a) Financial statements

Reference is made to the Index and Financial Statements under Item 8 in Part II hereof where these documents are listed.

#### (b) Financial statement schedules

Financial statement schedules are either not required or the required information is included in the consolidated financial statements or notes thereto filed under Item 8 in Part II hereof.

#### (c) Exhibits

The exhibits to this Annual Report on Form 10-K are set forth below. The exhibit index indicates each management contract or compensatory plan or arrangement required to be filed as an exhibit.

<b>Number</b>	<b>Exhibit Description</b>	<b>Method of Filing</b>
1.1	Form of Underwriting Agreement	Incorporated by reference from the Registrant's Registration Statement on Form S-1 filed on July 22, 2015.
1.2	Form of Underwriting Agreement	Incorporated by reference from the Registrant's Current Report on Form 8-K filed on November 11, 2016.
3.1	First Amended and Restated Certificate of Incorporation of the Registrant	Incorporated by reference from the Registrant's Registration Statement on Form S-1 filed on June 9, 2015.
3.2	Amended and Restated Bylaws of the Registrant	Incorporated by reference from the Registrant's Registration Statement on Form S-1 filed on June 9, 2015.
3.3	Certificate of Amendment to First Amended and Restated Certificate of Incorporation of the Registrant	Incorporated by reference from the Registrant's Registration Statement on Form S-1 filed on June 25, 2015.
4.1	Specimen Certificate representing shares of common stock of Registrant	Incorporated by reference from the Registrant's Registration Statement on Form S-1 filed on July 20, 2015.
4.2	Warrant dated September 8, 2014 issued to Liquid Patent Consulting, LLC	Incorporated by reference from the Registrant's Registration Statement on Form S-1 filed on June 9, 2015.
4.3	Form of Senior Secured Convertible Promissory Note issued by the Registrant to investors in the offering completed on October 31, 2014	Incorporated by reference from the Registrant's Registration Statement on Form S-1 filed on June 9, 2015.
4.4	Warrant dated October 31, 2014 issued to National Securities Corporation	Incorporated by reference from the Registrant's Registration Statement on Form S-1 filed on June 9, 2015.

4.5	Form of Underwriters' Warrant	Incorporated by reference from the Registrant's Registration Statement on Form S-1 filed on July 20, 2015.
4.6	Convertible Term Note issued by Aqua Metals, Inc. to Interstate Emerging Investments, LLC dated May 24, 2016	Incorporated by reference from the Registrant's Quarterly Report on Form 10-Q filed on August 10, 2016
4.7	Warrant to Purchase Common Stock issued by Aqua Metals, Inc. to Interstate Emerging Investments, LLC dated May 24, 2016 (Two Year)	Incorporated by reference from the Registrant's Quarterly Report on Form 10-Q filed on August 10, 2016
4.8	Warrant to Purchase Common Stock issued by Aqua Metals, Inc. to Interstate Emerging Investments, LLC dated May 24, 2016 (Three Year)	Incorporated by reference from the Registrant's Quarterly Report on Form 10-Q filed on August 10, 2016
4.9	Warrant to Purchase Common Stock issued by Aqua Metals, Inc. to National Securities Corporation dated November 21, 2016 (Three Year)	Filed electronically herewith
10.1	Form of Indemnification Agreement entered into by the Registrant with its Officers and Directors	Incorporated by reference from the Registrant's Registration Statement on Form S-1 filed on June 9, 2015.
10.2*	Aqua Metals, Inc. 2014 Stock Incentive Plan	Incorporated by reference from the Registrant's Registration Statement on Form S-1 filed on June 9, 2015.
10.3	Real Estate Purchase and Sale Agreement dated February 23, 2015 between Tahoe-Reno Industrial Center, LLC and the Registrant	Incorporated by reference from the Registrant's Registration Statement on Form S-1 filed on June 9, 2015.
10.4*	Executive Employment Agreement dated January 15, 2015 between Stephen R. Clarke and the Registrant	Incorporated by reference from the Registrant's Registration Statement on Form S-1 filed on June 9, 2015.
10.5*	Executive Employment Agreement dated January 15, 2015 between Thomas Murphy and the Registrant	Incorporated by reference from the Registrant's Registration Statement on Form S-1 filed on June 9, 2015.
10.6*	Executive Employment Agreement dated January 1, 2015 between Selwyn Mould and the Registrant	Incorporated by reference from the Registrant's Registration Statement on Form S-1 filed on June 9, 2015.
10.7*	Executive Employment Agreement dated January 15, 2015 between Stephen D. Cotton and the Registrant	Incorporated by reference from the Registrant's Registration Statement on Form S-1 filed on June 9, 2015.
10.8	Form of Lock-Up Agreement	Incorporated by reference from the Registrant's Registration Statement on Form S-1 filed on June 9, 2015.

10.9	Third Amendment to Purchase and Sale Agreement dated May 19, 2015 between Tahoe-Reno Industrial Center, LLC and the Registrant	Incorporated by reference from the Registrant's Registration Statement on Form S-1 filed on June 9, 2015.
10.10	Lease Agreement dated August 7, 2015 between Registrant and with BSREP Marina Village Owner LLC	Incorporated by reference from the Registrant's Current Report on Form 8-K filed on August 27, 2015.
10.11	Contract for Construction dated September 22, 2015 between Aqua Metals, Reno, Inc. and Miles Construction	Incorporated by reference from the Registrant's Quarterly Report on Form 10-Q filed November 10, 2015.
10.12	Loan Agreement dated November 3, 2015 between Aqua Metals Reno, Inc. and Green Bank. N.A.	Incorporated by reference from the Registrant's Quarterly Report on Form 10-Q filed November 10, 2015.
10.13	Deed of Trust, Security Agreement and Fixture Filing dated November 3, 2015 made by Aqua Metals Reno, Inc. in favor of Green Bank. N.A	Incorporated by reference from the Registrant's Quarterly Report on Form 10-Q filed November 10, 2015.
10.14	Stock Purchase Agreement between Aqua Metals, Inc. and Interstate Emerging Investments, LLC dated May 18, 2016	Incorporated by reference from the Registrant's Quarterly Report on Form 10-Q filed on August 10, 2016.
10.15	Stock Purchase Agreement between Aqua Metals, Inc. and the Purchasers, named therein dated May 18, 2016	Incorporated by reference from the Registrant's Quarterly Report on Form 10-Q filed on August 10, 2016.
10.16	Registration rights agreement between Aqua Metals, Inc. and the Purchasers, named therein dated May 18, 2016	Incorporated by reference from the Registrant's Quarterly Report on Form 10-Q filed on August 10, 2016.
10.17	Investor Rights Agreement between Aqua Metals, Inc. and Interstate Emerging Investments, LLC dated May 18, 2016	Filed as an exhibit to the Registrant's Registration Statement on Form S-3 filed on August 1, 2016.
10.18	Credit Agreement between Aqua Metals, Inc. and Interstate Emerging Investments, LLC dated May 18, 2016	Incorporated by reference from the Registrant's Quarterly Report on Form 10-Q filed on August 10, 2016.
10.19*	Amendment No. 1 dated August 8, 2016 to Executive Employment Agreement dated January 15, 2015 between Aqua Metals, Inc. and Stephen R. Clarke	Incorporated by reference from the Registrant's Quarterly Report on Form 10-Q filed on August 10, 2016.
10.20*	Amendment No. 1 dated August 8, 2016 to Executive Employment Agreement dated January 15, 2015 between Aqua Metals, Inc. and Thomas Murphy	Incorporated by reference from the Registrant's Quarterly Report on Form 10-Q filed on August 10, 2016.
10.21*	Amendment No. 1 dated August 8, 2016 to Executive Employment Agreement dated January 15, 2015 between Aqua Metals, Inc. and Selwyn Mould	Incorporated by reference from the Registrant's Quarterly Report on Form 10-Q filed on August 10, 2016.
10.22*	Amendment No. 1 dated August 8, 2016 to Executive Employment Agreement dated January 15, 2015 between Aqua Metals, Inc. and Steve Cotton	Incorporated by reference from the Registrant's Quarterly Report on Form 10-Q filed on August 10, 2016.
21.1	List of subsidiaries of Registrant.	Incorporated by reference from the Registrant's Registration Statement on S-1 filed on June 9, 2015.

23.1	Consent of Armanino LLP, Independent Registered Public Accounting Firm.	Filed electronically herewith.
31.1	Certification under Section 302 of the Sarbanes-Oxley Act of 2002.	Filed electronically herewith.
31.2	Certification under Section 302 of the Sarbanes-Oxley Act of 2002.	Filed electronically herewith.
32.1	Certifications Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, 18 U.S.C. Section 1350.	Filed electronically herewith.
101.INS	XBRL Instance Document	Filed electronically herewith
101.SCH	XBRL Taxonomy Extension Schema Document	Filed electronically herewith
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document	Filed electronically herewith
101.LAB	XBRL Taxonomy Extension Label Linkbase Document	Filed electronically herewith
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document	Filed electronically herewith
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document	Filed electronically herewith

\* Indicates management compensatory plan, contract or arrangement.

## SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this annual report on Form 10-K to be signed on its behalf by the undersigned, thereunto duly authorized.

### AQUA METALS, INC.

Date: March 2, 2017

By: /s/ Stephen R. Clarke  
Stephen R. Clarke,  
Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Stephen R. Clarke</u> Stephen R. Clarke	Chief Executive Officer and Director <i>(Principal Executive Officer)</i>	March 2, 2017
<u>/s/ Thomas Murphy</u> Thomas Murphy	Chief Financial Officer and Director <i>(Principal Financial and Accounting Officer)</i>	March 2, 2017
<u>/s/ Vincent L. DiVito</u> Vincent L. DiVito	Director	March 2, 2017
<u>/s/ Mark Slade</u> Mark Slade	Director	March 2, 2017
<u>/s/ Mark Stevenson</u> Mark Stevenson	Director	March 2, 2017

THIS WARRANT AND THE SECURITIES ISSUABLE UPON EXERCISE HEREOF HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), OR ANY OTHER SECURITIES LAWS AND MAY NOT BE OFFERED FOR SALE, SOLD, TRANSFERRED, PLEDGED OR HYPOTHECATED IN THE ABSENCE OF (1) AN EFFECTIVE REGISTRATION STATEMENT COVERING SUCH SECURITIES UNDER THE SECURITIES ACT AND ANY OTHER APPLICABLE SECURITIES LAWS, OR (2) AN OPINION OF COUNSEL REASONABLY SATISFACTORY TO THE COMPANY THAT SUCH REGISTRATION IS NOT REQUIRED.

IN ADDITION, THIS WARRANT AND THE SECURITIES ISSUABLE UPON EXERCISE HEREOF MAY NOT BE SOLD, TRANSFERRED, ASSIGNED, PLEDGED, OR HYPOTHECATED, OR BE THE SUBJECT OF ANY HEDGING, SHORT SALE, DERIVATIVE, PUT, OR CALL TRANSACTION THAT WOULD RESULT IN THE EFFECTIVE ECONOMIC DISPOSITION OF SUCH SECURITIES BY ANY PERSON FOR A PERIOD OF ONE HUNDRED EIGHTY (180) DAYS IMMEDIATELY FOLLOWING THE DATE HEREOF, EXCEPT IN ACCORDANCE WITH FINRA RULE 5110(G)(2).

AQUA METALS, INC.

UNDERWRITER WARRANT

33,450 shares of Common Stock

November 21, 2016

This UNDERWRITER WARRANT (this "Warrant") of Aqua Metals, Inc., a corporation, duly organized and validly existing under the laws of the State of Delaware (the "Company"), is being issued pursuant to that certain Underwriting Agreement, dated November 16, 2016 (the "Underwriting Agreement"), between the Company and National Securities Corporation (the "Underwriter") relating to a public offering (the "Offering") of shares of common stock, \$0.001 par value, of the Company (the "Common Stock") underwritten by the Underwriter.

**FOR VALUE RECEIVED**, the Company hereby grants to National Securities Corporation and its permitted successors and assigns (collectively, the "Holder") the right to purchase from the Company up to 33,450 shares of Common Stock (such shares underlying this Warrant, the "Warrant Shares"), at a per share purchase price equal to \$10.00 (the "Exercise Price"), subject to the terms, conditions and adjustments set forth below in this Warrant.

1. Date of Warrant Exercise. This Warrant shall become exercisable one hundred eight (180) days after the date hereof (the "Exercise Date"). Except as permitted by applicable rules of the Financial Industry Regulatory Authority, Inc. ("FINRA"), this Warrant and the underlying Warrant Shares shall not be sold, transferred, assigned, pledged or hypothecated prior to the date that is one hundred eighty (180) days immediately following the date hereof pursuant to FINRA Rule 5110(g)(1), except as permitted under FINRA Rule 5110(g)(2).

2. Expiration of Warrant. This Warrant shall expire on the three (3) year anniversary of the date hereof (the "Expiration Date").

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3. Exercise of Warrant. This Warrant shall be exercisable pursuant to the terms of this Section 3.

3.1 Manner of Exercise.

(a) This Warrant may only be exercised by the Holder hereof on or after the Exercise Date and on or prior to the Expiration Date, in accordance with the terms and conditions hereof, in whole or in part (but not as to fractional shares) with respect to any portion of this Warrant, during the Company's normal business hours on any day other than a Saturday or a Sunday or a day on which commercial banking institutions in New York, New York are authorized by law to be closed (a "**Business Day**"), by surrender of this Warrant to the Company at its office maintained pursuant to Section 10.2(a) hereof, accompanied by a written exercise notice in the form attached as Exhibit A to this Warrant (or a reasonable facsimile thereof) duly executed by the Holder, together with the payment of the aggregate Exercise Price for the number of Warrant Shares purchased upon exercise of this Warrant. Upon surrender of this Warrant, the Company shall cancel this Warrant document and shall, in the event of partial exercise, replace it with a new Warrant document in accordance with Section 3.3.

(b) Except as provided for in Section 3.1(c) below, each exercise of this Warrant must be accompanied by payment in full of the aggregate Exercise Price in cash by check or wire transfer in immediately available funds for the number of Warrant Shares being purchased by the Holder upon such exercise.

(c) The aggregate Exercise Price for the number of Warrant Shares being purchased may also, in the sole discretion of the Holder, be paid in full or in part on a "cashless basis" at the election of the Holder:

- (i) in the form of Common Stock owned by the Holder (based on the Fair Market Value (as defined below) of such Common Stock on the date of exercise);
- (ii) in the form of Warrant Shares withheld by the Company from the Warrant Shares otherwise to be received upon exercise of this Warrant having an aggregate Fair Market Value on the date of exercise equal to the aggregate Exercise Price of the Warrant Shares being purchased by the Holder; or
- (iii) by a combination of the foregoing, provided that the combined value of all cash and the Fair Market Value of any shares surrendered to the Company is at least equal to the aggregate Exercise Price for the number of Warrant Shares being purchased by the Holder.

For purposes of this Warrant, the term "**Fair Market Value**" means with respect to a particular date, the average closing price of the Common Stock for the five (5) trading days immediately preceding the applicable exercise herein as officially reported by the principal securities exchange on which the Common Stock is then listed or admitted to trading, or, if the Common Stock is not listed or admitted to trading on any securities exchange as determined in good faith by resolution of the Board of Directors of the Company, based on the best information available to it.

To illustrate a cashless exercise of this Warrant under Section 3.1 (c)(ii) (or for a portion thereof for which cashless exercise treatment is requested as contemplated by Section 3.1(c)(iii) hereof), the calculation of such exercise shall be as follows:

$$X = Y (A-B)/A$$

where:

- X = the number of Warrant Shares to be issued to the Holder (rounded to the nearest whole share).
- Y = the number of Warrant Shares with respect to which this Warrant is being exercised.
- A = the Fair Market Value of the Common Stock.
- B = the Exercise Price.

(d) For purposes of Rule 144 and sub-section (d)(3)(ii) thereof, it is intended, understood, and acknowledged that the Common Stock issuable upon exercise of this Warrant in a cashless exercise transaction as described in Section 3.1(c) above shall be deemed to have been acquired at the time this Warrant was issued. Moreover, it is intended, understood, and acknowledged that the holding period for the Common Stock issuable upon exercise of this Warrant in a cashless exercise transaction as described in Section 3.1(c) above shall be deemed to have commenced on the date this Warrant was issued.

3 . 2 When Exercise Effective. Each exercise of this Warrant shall be deemed to have been effected immediately prior to the close of business on the Business Day on which this Warrant shall have been duly surrendered to the Company as provided in Sections 3.1 and 12 hereof, and, at such time, the Holder in whose name any certificate or certificates for Warrant Shares shall be issuable upon exercise as provided in Section 3.3 hereof shall be deemed to have become the holder or holders of record thereof of the number of Warrant Shares purchased upon exercise of this Warrant.

3 . 3 Delivery of Common Stock Certificates and New Warrant. As soon as reasonably practicable after each exercise of this Warrant, in whole or in part, and in any event within three (3) Business Days thereafter, the Company, at its expense (including the payment by it of any applicable issue taxes), will cause to be issued in the name of and delivered to the Holder hereof or, subject to Sections 9 and 10 hereof, as the Holder (upon payment by the Holder of any applicable transfer taxes) may direct:

(a) a certificate or certificates (with appropriate restrictive legends, as applicable) for the number of duly authorized, validly issued, fully paid and non-assessable Warrant Shares to which the Holder shall be entitled upon exercise; and

(b) in case exercise is in part only, a new Warrant document of like tenor, dated the date hereof, for the remaining number of Warrant Shares issuable upon exercise of this Warrant after giving effect to the partial exercise of this Warrant (including the delivery of any Warrant Shares as payment of the Exercise Price for such partial exercise of this Warrant).

4. Certain Adjustments. For so long as this Warrant is outstanding:

4.1 Mergers or Consolidations. If at any time after the date hereof there shall be a capital reorganization (other than a combination or subdivision of Common Stock otherwise provided for herein) resulting in a reclassification to or change in the terms of securities issuable upon exercise of this Warrant (a “**Reorganization**”), or a merger or consolidation of the Company with another corporation, association, partnership, organization, business, individual, government or political subdivision thereof or a governmental agency (a “**Person**” or the “**Persons**”) (other than a merger with another Person in which the Company is a continuing corporation and which does not result in any reclassification or change in the terms of securities issuable upon exercise of this Warrant or a merger effected exclusively for the purpose of changing the domicile of the Company) (a “**Merger**”), then, as a part of such Reorganization or Merger, lawful provision and adjustment shall be made so that the Holder shall thereafter be entitled to receive, upon exercise of this Warrant, the number of shares of stock or any other equity or debt securities or property receivable upon such Reorganization or Merger by a holder of the number of shares of Common Stock which might have been purchased upon exercise of this Warrant immediately prior to such Reorganization or Merger. In any such case, appropriate adjustment shall be made in the application of the provisions of this Warrant with respect to the rights and interests of the Holder after the Reorganization or Merger to the end that the provisions of this Warrant (including adjustment of the Exercise Price then in effect and the number of Warrant Shares) shall be applicable after that event, as near as reasonably may be, in relation to any shares of stock, securities, property or other assets thereafter deliverable upon exercise of this Warrant. The provisions of this Section 4.1 shall similarly apply to successive Reorganizations and/or Mergers.

4.2 Splits and Subdivisions; Dividends. In the event the Company should at any time or from time to time effectuate a split or subdivision of the outstanding shares of Common Stock or pay a dividend in or make a distribution payable in additional shares of Common Stock or other securities, or rights convertible into, or entitling the holder thereof to receive, directly or indirectly, additional shares of Common Stock (hereinafter referred to as “**Common Stock Equivalents**”) without payment of any consideration by such holder for the additional shares of Common Stock or Common Stock Equivalents (including the additional shares of Common Stock issuable upon conversion or exercise thereof), then, as of the applicable record date (or the date of such distribution, split or subdivision if no record date is fixed), the per share Exercise Price shall be appropriately decreased and the number of Warrant Shares shall be appropriately increased in proportion to such increase (or potential increase) of outstanding shares; provided, however, that no adjustment shall be made in the event the split, subdivision, dividend or distribution is not effectuated.

4.3 Combination of Shares. If the number of shares of Common Stock outstanding at any time after the date hereof is decreased by a combination of the outstanding shares of Common Stock, the per share Exercise Price shall be appropriately increased and the number of shares of Warrant Shares shall be appropriately decreased in proportion to such decrease in outstanding shares.

4.4 Adjustments for Other Distributions. In the event the Company shall declare a distribution payable in securities of other Persons, evidences of indebtedness issued by the Company or other Persons, assets (excluding cash dividends or distributions to the holders of Common Stock paid out of current or retained earnings and declared by the Company’s Board of Directors) or options or rights not referred to in Sections 4.2 or 4.3 then, in each such case for the purpose of this Section 4.4, upon exercise of this Warrant, the Holder shall be entitled to a proportionate share of any such distribution as though the Holder was the actual record holder of the number of Warrant Shares as of the record date fixed for the determination of the holders of Common Stock of the Company entitled to receive such distribution.

5 . No Impairment. The Company will not, by amendment of its certificate of incorporation or by-laws or through any consolidation, merger, reorganization, transfer of assets, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times in good faith assist in the carrying out of all of the terms and in the taking of all actions necessary or appropriate in order to protect the rights of the Holder against impairment.

6 . Notice as to Adjustments. With respect to each adjustment pursuant to Section 4 of this Warrant, the Company, at its expense, will promptly compute the adjustment or re-adjustment in accordance with the terms of this Warrant and furnish the Holder with a certificate certified and confirmed by the Secretary or Chief Financial Officer of the Company setting forth, in reasonable detail, the event requiring the adjustment or re-adjustment and the amount of such adjustment or re-adjustment, the method of calculation thereof and the facts upon which the adjustment or re-adjustment is based, and the Exercise Price and the number of Warrant Shares or other securities purchasable hereunder after giving effect to such adjustment or re-adjustment, which report shall be mailed by first class mail, postage prepaid to the Holder.

7 . Reservation of Shares. The Company shall, solely for the purpose of effecting the exercise of this Warrant, at all times during the term of this Warrant, reserve and keep available out of its authorized shares of Common Stock, free from all taxes, liens and charges with respect to the issue thereof and not subject to preemptive rights of shareholders of the Company, such number of its shares of Common Stock as shall from time to time be sufficient to effect in full the exercise of this Warrant. If at any time the number of authorized but unissued shares of Common Stock shall not be sufficient to effect in full the exercise of this Warrant, in addition to such other remedies as shall be available to Holder, the Company will promptly take such corporate action as may, in the opinion of its counsel, be necessary to increase the number of authorized but unissued shares of Common Stock to such number of shares as shall be sufficient for such purposes, including without limitation, using its Reasonable Commercial Efforts (as defined in Section 14 hereof) to obtain the requisite shareholder approval necessary to increase the number of authorized shares of Common Stock. The Company hereby represents and warrants that all shares of Common Stock issuable upon proper exercise of this Warrant shall be duly authorized and, when issued and paid for upon proper exercise, shall be validly issued, fully paid and nonassessable.

8. Registration and Listing.

8 . 1 Definition of Registrable Securities; Majority. As used herein, the term “**Registrable Securities**” means any shares of Common Stock issuable upon the exercise of this Warrant until the date (if any) on which such shares shall have been transferred or exchanged and new certificates for them not bearing a legend restricting further transfer shall have been delivered by the Company and subsequent disposition of the shares shall not require registration or qualification under the Securities Act or any similar state law then in force. For purposes of this Warrant, the term “**Majority Holders**” shall mean in excess of fifty percent (50%) of the then outstanding Warrant Shares.

## 8.2 Demand Registration Rights.

(a) The Company, upon written demand (“**Demand Notice**”) of the Majority Holders, agrees to register on one occasion all of the Registrable Securities (a “**Demand Right**”). On such occasion, the Company will file a registration statement or a post-effective amendment to the Registration Statement covering the Registrable Securities within forty-five (45) days after receipt of a Demand Notice and use its Reasonable Commercial Efforts to have such registration statement or post-effective amendment declared effective as soon as possible thereafter; provided, however, that the Company shall not be required to comply with a Demand Notice if the Company has filed a registration statement with respect to which the Holder is entitled to piggyback registration rights pursuant to Section 8.3 hereof and either: (i) the Holder has elected to participate in the offering covered by such registration statement or (ii) if such registration statement relates to an underwritten primary offering of securities of the Company, until the offering covered by such registration statement has been withdrawn or until thirty (30) days after such offering is consummated. The demand for registration may be made at any time during a period of two and one-half years beginning six (6) months from the date hereof. The Company covenants and agrees to give written notice of its receipt of any Demand Notice to all other registered Holders of the Warrants and/or the Registrable Securities within ten days from the date of the receipt of any such Demand Notice.

(b) The Company shall bear all fees and expenses attendant to registering the Registrable Securities pursuant to Section 8.2(a), but the Holders shall pay any and all underwriting commissions and the expenses of any legal counsel selected by the Holders to represent them in connection with the sale of the Registrable Securities. The Company agrees to use its Reasonable Commercial Efforts to qualify or register the Registrable Securities in such states as are reasonably requested by the Majority Holder(s); provided, however, that in no event shall the Company be required to register the Registrable Securities in a state in which such registration would cause (i) the Company to be obligated to register, license or qualify to do business in such state, submit to general service of process in such state or would subject the Company to taxation as a foreign corporation doing business in such jurisdiction or (ii) the principal stockholders of the Company to be obligated to escrow their shares of capital stock of the Company. The Company shall cause any registration statement or post-effective amendment filed pursuant to the Demand Right granted under Section 8.2(a) to remain effective for a period of nine consecutive months from the effective date of such registration statement or post-effective amendment. The Holders shall only use the prospectuses provided by the Company to sell the Registrable Securities covered by such registration statement, and will immediately cease to use any prospectus furnished by the Company if the Company advises the Holder that such prospectus may no longer be used due to a material misstatement or omission.

## 8.3 Incidental Registration Rights.

(a) If the Company proposes to register any of its securities under the Securities Act (other than in connection with a transaction contemplated by Rule 145(a) promulgated under the Securities Act or pursuant to registration on Form S-4 or S-8 or any successor forms) whether for its own account or for the account of any holder or holders of its shares other than Registrable Securities (any shares of such holder or holders (but not those of the Company and not Registrable Securities) with respect to any registration are referred to herein as, “**Other Shares**”), the Company shall at each such time give prompt (but not less than thirty (30) days prior to the anticipated effectiveness thereof) written notice to the holders of Registrable Securities of its intention to do so. The holders of Registrable Securities shall exercise the “piggy-back” rights provided herein by giving written notice within ten (10) days after the receipt of any such notice (which request shall specify the Registrable Securities intended to be disposed of by such holder). Except as set forth in Section 8.3(b), the Company will use its Reasonable Commercial Efforts to effect the registration under the Securities Act of all of the Registrable Securities which the Company has been so requested to register by such holder, to the extent required to permit the disposition of the Registrable Securities so to be registered, by inclusion of such Registrable Securities in the registration statement which covers the securities which the Company proposes to register. The Company will pay all Registration Expenses in connection with each registration of Registrable Securities pursuant to this Section 8.3.

(b) If the Company at any time proposes to register any of its securities under the Securities Act as contemplated by this Section 8.3 and such securities are to be distributed by or through one or more underwriters, the Company will, if requested by a holder of Registrable Securities, use its Reasonable Commercial Efforts to arrange for such underwriters to include all the Registrable Securities to be offered and sold by such holder among the securities to be distributed by such underwriters, provided that if the managing underwriter of such underwritten offering shall inform the Company by letter of its belief that inclusion in such registration statement and/or distribution of all or a specified number of such securities proposed to be distributed by such underwriters would interfere with the successful marketing of the securities being distributed by such underwriters (such letter to state the basis of such belief and the approximate number of such Registrable Securities, such Other Shares and shares held by the Company proposed so to be registered which may be distributed without such effect), then the Company may, upon written notice to such holder, the other holders of Registrable Securities, and holders of such Other Shares, reduce pro rata in accordance with the number of shares of Common Stock desired to be included in such registration statement and/or distribution (if and to the extent stated by such managing underwriter to be necessary to eliminate such effect) the number of such Registrable Securities and Other Shares the registration and/or distribution of which shall have been requested by each holder thereof so that the resulting aggregate number of such Registrable Securities and Other Shares so included in such registration and/or distribution, together with the number of securities to be included in such registration and/or distribution for the account of the Company, shall be equal to the number of shares stated in such managing underwriter's letter.

8 . 4 Registration Procedures. Whenever the holders of Registrable Securities have properly requested that any Registrable Securities be registered pursuant to the terms of this Warrant, the Company shall use its Reasonable Commercial Efforts to effect the registration for the sale of such Registrable Securities in accordance with the intended method of disposition thereof, and pursuant thereto the Company shall as expeditiously as possible:

(a) prepare and file with the SEC a registration statement with respect to such Registrable Securities and use its Reasonable Commercial Efforts to cause such registration statement to become effective;

(b) notify such holders of the effectiveness of each registration statement filed hereunder and prepare and file with the SEC such amendments and supplements to such registration statement and the prospectus used in connection therewith as may be necessary to (i) keep such registration statement effective and the prospectus included therein usable for a period commencing on the date that such registration statement is initially declared effective by the SEC and ending on the earlier of (A) the date when all Registrable Securities covered by such registration statement have been sold pursuant to the registration statement or cease to be Registrable Securities, or (B) nine months from the effective date of the registration statement; and (ii) comply with the provisions of the Securities Act with respect to the disposition of all securities covered by such registration statement during such period in accordance with the intended methods of disposition by the sellers thereof set forth in such registration statement;

(c) furnish to such holders such number of copies of such registration statement, each amendment and supplement thereto, the prospectus included in such registration statement (including each preliminary prospectus) and such other documents as such seller may reasonably request in order to facilitate the disposition of the Registrable Securities owned by such holders;

(d) use its Reasonable Commercial Efforts to register or qualify such Registrable Securities under such other securities or blue sky laws of such jurisdictions as such holders reasonably request and do any and all other acts and things which may be reasonably necessary or advisable to enable such holders to consummate the disposition in such jurisdictions of the Registrable Securities owned by such holders; provided, however, that the Company shall not be required to: (i) qualify generally to do business in any jurisdiction where it would not otherwise be required to qualify but for this subparagraph; (ii) subject itself to taxation in any such jurisdiction; or (iii) consent to general service of process in any such jurisdiction;

(e) notify such holders, at any time when a prospectus relating thereto is required to be delivered under the Securities Act, of the happening of any event as a result of which the prospectus included in such registration statement contains an untrue statement of a material fact or omits any material fact necessary to make the statements therein, in light of the circumstances in which they are made, not materially misleading, and, at the reasonable request of such holders, the Company shall prepare a supplement or amendment to such prospectus so that, as thereafter delivered to the purchasers of such Registrable Securities, such prospectus shall not contain an untrue statement of a material fact or omit to state any material fact necessary to make the statements therein, in light of the circumstances in which they are made, not materially misleading;

(f) provide a transfer agent and registrar for all such Registrable Securities not later than the effective date of such registration statement;

(g) make available for inspection by any underwriter participating in any disposition pursuant to such registration statement, and any attorney, accountant or other agent retained by any such underwriter, all financial and other records, pertinent corporate documents and properties of the Company, and cause the Company's officers, directors, managers, employees and independent accountants to supply all information reasonably requested by any such underwriter, attorney, accountant or agent in connection with such registration statement;

(h) otherwise use its Reasonable Commercial Efforts to comply with all applicable rules and regulations of the SEC, and make available to its security holders, as soon as reasonably practicable, an earnings statement of the Company, which earnings statement shall satisfy the provisions of Section 11(a) of the Securities Act and, at the option of the Company, Rule 158 thereunder;

(i) in the event of the issuance of any stop order suspending the effectiveness of a registration statement, or of any order suspending or preventing the use of any related prospectus or suspending the qualification of any Registrable Securities included in such registration statement for sale in any jurisdiction, the Company shall use its Reasonable Commercial Efforts promptly to obtain the withdrawal of such order; and

(j) if the offering is underwritten, use its Reasonable Commercial Efforts to furnish on the date that Registrable Securities are delivered to the underwriters for sale pursuant to such registration, an opinion dated such date of counsel representing the Company for the purposes of such registration, addressed to the underwriters covering such issues as are reasonably required by such underwriters.

8 . 5 Listing. The Company shall secure the listing of the Common Stock underlying this Warrant upon each national securities exchange or automated quotation system upon which shares of Common Stock are then listed or quoted (subject to official notice of issuance) and shall maintain such listing of shares of Common Stock. The Company shall at all times comply in all material respects with the Company's reporting, filing and other obligations under the by-laws or rules of The NASDAQ Stock Market (or such other national securities exchange or market on which the Common Stock may then be listed, as applicable).

8.6 Expenses. The Company shall pay all Registration Expenses relating to the registration and listing obligations set forth in this Section 8. For purposes of this Warrant, the term “**Registration Expenses**” means: (a) all registration, filing and FINRA fees, (b) all reasonable fees and expenses of complying with securities or blue sky laws, (c) all word processing, duplicating and printing expenses, (d) the fees and disbursements of counsel for the Company and of its independent public accountants, including the expenses of any special audits or “cold comfort” letters required by or incident to such performance and compliance, (e) premiums and other costs of policies of insurance (if any) against liabilities arising out of the public offering of the Registrable Securities being registered if the Company desires such insurance, if any, and (f) fees and disbursements of one counsel for the selling holders of Registrable Securities; provided however, that, in any case where Registration Expenses are not to be borne by the Company, such expenses shall not include (and such expenses shall be borne by the Company): (i) salaries of Company personnel or general overhead expenses of the Company, (ii) auditing fees, or (iii) other expenses for the preparation of financial statements or other data, to the extent that any of the foregoing either is normally prepared by the Company in the ordinary course of its business or would have been incurred by the Company had no public offering taken place. Registration Expenses shall not include any underwriting discounts and commissions which may be incurred in the sale of any Registrable Securities and transfer taxes of the selling holders of Registrable Securities.

8.7 Information Provided by Holders. Any holder of Registrable Securities included in any registration shall furnish to the Company such information as the Company may reasonably request in writing, including, but not limited to, a completed and executed questionnaire requesting information customarily sought of selling security holders, to enable the Company to comply with the provisions hereof in connection with any registration referred to in this Warrant. The Holder agrees to suspend all sales of Registrable Securities pursuant to a registration statement filed under Section 8.3 in the event the Company notifies Holder pursuant to Section 8.4(e) that the prospectus relating thereto is no longer current and will not resume sales under such registration statement until advised by the Company that the prospectus has been appropriately supplemented or amended.

8 . 8 FINRA Public Offering System Filings. In the event that a registration statement covering the Registrable Securities is filed, within one (1) Business Day of the filing of such registration statement, the Company will prepare and file the selling stockholder resale offering described in such registration statement for review by FINRA via the FINRA’s Public Offering System filing system (“**Public Offering System Filing**”) for the purpose of having the prospectus contained within such registration statement treated as a “base prospectus” in connection with such resale offering. The Company will use its Reasonable Commercial Efforts to have the Public Offering System Filing approved by FINRA within thirty (30) days of such filing date. The Company shall bear all expenses of the Public Offering System Filing, including fees and expenses of one counsel or other advisor to the Holder. In all circumstances, the Company shall pay for all FINRA filing fees associated with the Public Offering System Filing.

8 . 9 Effectiveness Period. The Company shall use its Reasonable Commercial Efforts to keep each registration statement contemplated hereunder continuously effective under the Securities Act until the date which is the earlier date of when (i) all Registrable Securities covered by such Registration Statement have been sold, (ii) all Registrable Securities covered by such Registration Statement may be sold immediately without registration under the Securities Act and without volume restrictions pursuant to Rule 144 under the Securities Act, as determined by the counsel to the Company pursuant to a written opinion letter to such effect, addressed and reasonably acceptable to the Company’s transfer agent and the affected holders of Registrable Securities, or (iii) nine months from the effective date of such registration statement.

8.10 Net Cash Settlement. Notwithstanding anything herein to the contrary, in no event will the Holder hereof be entitled to receive a net-cash settlement as liquidated damages in lieu of physical settlement in shares of Common Stock, regardless of whether the Common Stock underlying this Warrant is registered pursuant to an effective registration statement; provided, however, that the foregoing will not preclude the Holder from seeking other remedies at law or equity for breaches by the Company of its registration obligations hereunder.

9. Restrictions on Transfer.

9.1 Restrictive Legends. This Warrant and each Warrant issued upon transfer or in substitution for this Warrant pursuant to Section 10 hereof, each certificate for Common Stock issued upon the exercise of the Warrant and each certificate issued upon the transfer of any such Common Stock shall be transferable only upon satisfaction of the conditions specified in this Section 9. Each of the foregoing securities shall be stamped or otherwise imprinted with a legend reflecting the restrictions on transfer set forth herein and any restrictions required under the Securities Act or other applicable securities laws.

9.2 Notice of Proposed Transfer. Prior to any transfer of any securities which are not registered under an effective registration statement under the Securities Act ("**Restricted Securities**"), which transfer may only occur if there is an exemption from the registration provisions of the Securities Act and all other applicable securities laws, the Holder will give written notice to the Company of the Holder's intention to effect a transfer (and shall describe the manner and circumstances of the proposed transfer). The following provisions shall apply to any proposed transfer of Restricted Securities:

( i ) If in the opinion of counsel for the Holder reasonably satisfactory to the Company the proposed transfer may be effected without registration of the Restricted Securities under the Securities Act (which opinion shall state in detail the basis of the legal conclusions reached therein), the Holder shall thereupon be entitled to transfer the Restricted Securities in accordance with the terms of the notice delivered by the Holder to the Company. Each certificate representing the Restricted Securities issued upon or in connection with any transfer shall bear the restrictive legends required by Section 9.1 hereof.

( ii ) If the opinion called for in (i) above is not delivered, the Holder shall not be entitled to transfer the Restricted Securities until either: (x) receipt by the Company of a further notice from such Holder pursuant to the foregoing provisions of this Section 9.2 and fulfillment of the provisions of clause (i) above, or (y) such Restricted Securities have been effectively registered under the Securities Act.

9.3 Certain Other Transfer Restrictions. Notwithstanding any other provision of this Warrant: (i) prior to the Exercise Date, this Warrant or the Restricted Securities thereunder may only be transferred or assigned to the persons permitted under FINRA Rule 5110(g), and (ii) subject at all times to FINRA Rule 5110(g), no opinion of counsel shall be necessary for a transfer of Restricted Securities by the holder thereof to any Person employed by or owning equity in the Holder, if the transferee agrees in writing to be subject to the terms hereof to the same extent as if the transferee were the original purchaser hereof and such transfer is permitted under applicable securities laws.

9.4 Termination of Restrictions. Except as set forth in Section 9.3 hereof and subject at all times to FINRA Rule 5110(g), the restrictions imposed by this Section 9 upon the transferability of Restricted Securities shall cease and terminate as to any particular Restricted Securities: (a) which shall have been effectively registered under the Securities Act, or (b) when, in the opinion of counsel for the Company, such restrictions are no longer required in order to insure compliance with the Securities Act or Section 10 hereof. Whenever such restrictions shall cease and terminate as to any Restricted Securities, the Holder thereof shall be entitled to receive from the Company, without expense (other than applicable transfer taxes, if any), new securities of like tenor not bearing the applicable legends required by Section 9.1 hereof.

10. Ownership, Transfer, Sale and Substitution of Warrant.

10.1 Ownership of Warrant. The Company may treat any Person in whose name this Warrant is registered in the Warrant Register maintained pursuant to Section 10.2(b) hereof as the owner and holder thereof for all purposes, notwithstanding any notice to the contrary, except that, if and when any Warrant is properly assigned in blank, the Company may (but shall not be obligated to) treat the bearer thereof as the owner of such Warrant for all purposes, notwithstanding any notice to the contrary. Subject to Sections 9 and 10 hereof, this Warrant, if properly assigned, may be exercised by a new holder without a new Warrant first having been issued.

10.2 Office; Exchange of Warrant.

(a) The Company will maintain its principal office at the location identified in the prospectus relating to the Offering or at such other offices as set forth in the Company's most current filing (as of the date notice is to be given) under the Securities Exchange Act of 1934, as amended, or as the Company otherwise notifies the Holder.

(b) The Company shall cause to be kept at its office maintained pursuant to Section 10.2(a) hereof a Warrant Register for the registration and transfer of the Warrant. The name and address of the holder of the Warrant, the transfers thereof and the name and address of the transferee of the Warrant shall be registered in such Warrant Register. The Person in whose name the Warrant shall be so registered shall be deemed and treated as the owner and holder thereof for all purposes of this Warrant, and the Company shall not be affected by any notice or knowledge to the contrary.

(c) Upon the surrender of this Warrant, properly endorsed, for registration of transfer or for exchange at the office of the Company maintained pursuant to Section 10.2(a) hereof, the Company at its expense will (subject to compliance with Section 9 hereof, if applicable) execute and deliver to or upon the order of the Holder thereof a new Warrant of like tenor, in the name of such holder or as such holder (upon payment by such holder of any applicable transfer taxes) may direct, calling in the aggregate on the face thereof for the number of shares of Common Stock called for on the face of the Warrant so surrendered (after giving effect to any previous adjustment(s) to the number of Warrant Shares).

10.3 Replacement of Warrant. Upon receipt of evidence reasonably satisfactory to the Company of the loss, theft, destruction or mutilation of this Warrant and, in the case of any such loss, theft or destruction of this Warrant, upon delivery of indemnity reasonably satisfactory to the Company in form and amount or, in the case of any mutilation, upon surrender of this Warrant for cancellation at the office of the Company maintained pursuant to Section 10.2(a) hereof, the Company will execute and deliver, in lieu thereof, a new Warrant of like tenor and dated the date hereof.

10.4 Opinions. In connection with the sale of the Warrant Shares by Holder, the Company agrees to cooperate with the Holder, and at the Company's expense, to have its counsel provide any legal opinions required to remove the restrictive legends from the Warrant Shares in connection with a sale, transfer or legend removal request of Holder.

1 1 . No Rights or Liabilities as Stockholder. No Holder shall be entitled to vote or be deemed the holder of any equity securities which may at any time be issuable on the exercise hereof, nor shall anything contained herein be construed to confer upon the Holder, as such, any of the rights of a stockholder of the Company or any right to vote for the election of directors or upon any matter submitted to stockholders at any meeting thereof, or to give or withhold consent to any corporate action (whether upon any recapitalization, issuance of stock, reclassification of stock, change of par value, consolidation, merger, conveyance, or otherwise) or to receive notice of meetings until the Warrant shall have been exercised and the shares of Common Stock purchasable upon the exercise hereof shall have become deliverable, as provided herein.

12. Notices. Any notice or other communication in connection with this Warrant shall be given in writing and directed to the parties hereto as follows: (a) if to the Holder, at the address of the holder in the warrant register maintained pursuant to Section 10 hereof, or (b) if to the Company, to the attention of its Chief Executive Officer at its office maintained pursuant to Section 10.2(a) hereof; *provided*, that the exercise of the Warrant shall also be effected in the manner provided in Section 3 hereof. Notices shall be deemed properly delivered and received when delivered to the notice party (i) if personally delivered, upon receipt or refusal to accept delivery, (ii) if sent via facsimile, upon mechanical confirmation of successful transmission thereof generated by the sending telecopy machine, (iii) if sent by a commercial overnight courier for delivery on the next Business Day, on the first Business Day after deposit with such courier service, or (iv) if sent by registered or certified mail, five (5) Business Days after deposit thereof in the U.S. mail.

13. Payment of Taxes. The Company will pay all documentary stamp taxes attributable to the issuance of shares of Common Stock underlying this Warrant upon exercise of this Warrant; *provided, however*, that the Company shall not be required to pay any tax which may be payable in respect of any transfer involved in the transfer or registration of this Warrant or any certificate for shares of Common Stock underlying this Warrant in a name other than that of the Holder. The Holder is responsible for all other tax liability that may arise as a result of holding or transferring this Warrant or receiving shares of Common Stock underlying this Warrant upon exercise hereof.

1 4 . Miscellaneous. This Warrant and any term hereof may be changed, waived, discharged or terminated only by an instrument in writing signed by the party against which enforcement of the change, waiver, discharge or termination is sought. This Warrant shall be construed and enforced in accordance with and governed by the laws of the State of New York. Each of the parties consents to the exclusive jurisdiction of the Federal or state courts whose districts encompass any part of the County of New York located in the City of New York, New York in connection with any dispute arising under this Agreement and hereby waives, to the maximum extent permitted by law, any objection, including any objection based on *forum non conveniens*, to the bringing of any such proceeding in such jurisdictions. Each party to this Agreement irrevocably consents to the service of process in any such proceeding by any manner permitted by law. The section headings in this Warrant are for purposes of convenience only and shall not constitute a part hereof. When used herein, the term “**Reasonable Commercial Efforts**” means, with respect to the applicable obligation of the Company, reasonable commercial efforts for similarly situated, publicly-traded companies.

(Signature on Following Page)

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

**AQUA METALS, INC.**

By: /s/ Thomas Murphy  
Thomas Murphy,  
Chief Financial Officer:

**EXHIBIT A**  
**FORM OF EXERCISE NOTICE**  
[To be executed only upon exercise of Warrant]

To AQUA METALS, INC.:

The undersigned registered holder of the within Warrant hereby irrevocably exercises the Warrant pursuant to Section 3.1 of the Warrant with respect to [\_\_\_\_\_] Warrant Shares, at an exercise price of \$[\_\_\_\_\_] per share, and requests that the certificates for such Warrant Shares be issued, subject to Sections 9 and 10, in the name of and delivered to:

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

The undersigned is hereby making payment for the Warrant Shares in the following manner:  
[check one]

- by cash in accordance with Section 3.1(b) of the Warrant
- via cashless exercise in accordance with Section 3.1(c) of the Warrant in the following manner:

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

The undersigned hereby represents and warrants that it is, and has been since its acquisition of the Warrant, the record and beneficial owner of the Warrant.

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

\_\_\_\_\_  
Print or Type Name

\_\_\_\_\_  
(Signature must conform in all respects to name of holder as specified on the face of Warrant)

\_\_\_\_\_  
(Street Address)

\_\_\_\_\_  
(City) (State) (Zip Code)

**EXHIBIT B**  
**FORM OF ASSIGNMENT**  
[To be executed only upon transfer of Warrant]

For value received, the undersigned registered holder of the within Warrant hereby sells, assigns and transfers unto \_\_\_\_\_ [include name and addresses] the rights represented by the Warrant to purchase \_\_\_\_\_ shares of Common Stock of AQUA METALS, INC. to which the Warrant relates, and appoints \_\_\_\_\_ Attorney to make such transfer on the books of AQUA METALS, INC. maintained for the purpose, with full power of substitution in the premises.

Dated:

\_\_\_\_\_  
(Signature must conform in all respects to name of holder as specified on the face of Warrant)

\_\_\_\_\_  
(Street Address)

\_\_\_\_\_  
(City) (State) (Zip Code)

Signed in the presence of:

\_\_\_\_\_  
(Signature of Transferee)

\_\_\_\_\_  
(Street Address)

\_\_\_\_\_  
(City) (State) (Zip Code)

Signed in the presence of:

\_\_\_\_\_

**CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

To the Board of Directors and  
Stockholders of Aqua Metals, Inc. and Subsidiaries:

We consent to the incorporation by reference in the registration statements (No. 333-211810) on Form S-8 and (Nos. 333-212808 and 333-213501) on Form 3 of Aqua Metals, Inc. of our report dated March 1, 2017, with respect to the consolidated financial statements of Aqua Metals, Inc. and subsidiaries as of December 31, 2016 and December 31, 2015, and the related consolidated statements of operations, stockholders' equity, and cash flows for the years then ended.

/s/ Armanino LLP

San Ramon, CA  
March 2, 2017

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## CERTIFICATIONS

I, Stephen R. Clarke, certify that:

- (1) I have reviewed this annual report on Form 10-K of Aqua Metals, Inc.;
- (2) Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
- (3) Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
- (4) The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the company and have:
  - (a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - (b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - (c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the period covered by this report based on such evaluation; and
  - (d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent quarter (the registrant's fourth quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
- (5) The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent functions):
  - (a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
  - (b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

**AQUA METALS, INC.**

Date: March 2, 2017

By: /s/ Stephen R. Clarke  
Stephen R. Clarke, Chief Executive Officer

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## CERTIFICATIONS

I, Thomas Murphy, certify that:

- (1) I have reviewed this annual report on Form 10-K of Aqua Metals, Inc.;
- (2) Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
- (3) Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
- (4) The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the company and have:
  - (a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - (b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - (c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the period covered by this report based on such evaluation; and
  - (d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent quarter (the registrant's fourth quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
- (5) The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent functions):
  - (a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
  - (b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

**AQUA METALS, INC.**

Date: March 2, 2017

By: /s/ Thomas Murphy

Thomas Murphy, Chief Financial Officer  
(Principal Financial Officer)

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**CERTIFICATION PURSUANT TO  
18 U.S.C. ss.1350,  
AS ADOPTED PURSUANT TO  
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Annual Report of Aqua Metals, Inc. (the "Company") on Form 10-K for the period ended December 31, 2016 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Stephen R. Clarke, the Chief Executive Officer, and Thomas Murphy, the Chief Financial Officer, of the Company, respectively, certify, pursuant to 18 U.S.C. §1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

By: /s/ Stephen R. Clarke Dated: March 2, 2017  
Stephen R. Clarke

Title: Chief Executive Officer  
(Principal Executive Officer)

By: /s/ Thomas Murphy Dated: March 2, 2017  
Thomas Murphy

Title: Chief Financial Officer  
(Principal Financial and Accounting Officer)

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

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