

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, 2017

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, a smaller reporting company or an emerging growth company (as defined in Rule 12b-2 of the Act):

Large accelerated filer

Accelerated filer

Non-accelerated filer
(Do not check if a smaller reporting company)

Smaller reporting company
Emerging Growth Company

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

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

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: \$204,990,583.

The number of shares of the registrant's common stock outstanding as of March 9, 2018 was 28,694,210.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive proxy statement for the registrant's 2018 Annual Meeting of Stockholders to be filed pursuant to Regulation 14A within 120 days of the registrant's year ended December 31, 2017 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 the roll-out of our first 16 Aqua refining modules;
- the ability to maximize selling value from the broken lead-acid batteries, or LABs;
- 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 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 effects of the putative class action and shareholder derivative lawsuits filed against us;
- 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 first LAB recycling facility at the Tahoe Regional Industrial Center, McCarran, Nevada, or "TRIC," and commenced production of battery breaking and limited operations during the first quarter of 2017. The TRIC facility will produce recycled lead, consisting of lead compounds, ingoted hard lead and ingoted AquaRefined lead as well as plastic. We commenced the shipment of products for sale, consisting of lead compounds and plastics, in April 2017 and as of the date of this report all revenue has been derived from the sale of lead compounds and plastics. 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, the most recent of which are summarized below in "Management's Discussion and Analysis of Financial Condition and Results of Operations - General."

Overview

Aqua Metals is seeking to reinvent lead recycling with its patented and patent-pending AquaRefining[™] technology. Unlike smelting, AquaRefining is a room temperature, water-based process. 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 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 consumer use of all lead produced in the world. Because the chemical and metallurgical properties of lead allow it to be recycled and reused indefinitely, LABs are also the dominant feed source for lead production across the world. 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 high purity lead with fewer environmental and regulatory issues than is possible with conventional methods of lead production.

In recent years, 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, metallurgical/chemical reduction, energy intensive and often a highly polluting process. As a consequence of the environmental and health issues, lead smelting has become increasingly regulated in many countries. In the U.S., regulatory non-compliance has forced the closure of large lead smelters in Vernon, California, Frisco, Texas and Herculaneum, Missouri over the last several years. In response to increasing environmental regulation over the past three 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 U.S. to smelters in Mexico, South Korea, the Philippines and elsewhere is an increasingly significant logistical and global environmental cost.

AquaRefining uses a bio-degradable aqueous solvent and a novel ambient temperature electro-chemical process to produce lead suitable for use in LAB production. We believe that AquaRefining can provide a more efficient production process as compared with alternative methods of producing equivalent grades of lead. We also have the potential to locate AquaRefining facilities closer to the source of used LABs, thereby reducing transport costs and supply chain bottlenecks. On this basis, we believe that AquaRefining reduces environmental plant emissions, health concerns and permitting needs compared with lead smelting. We believe that the combined advantages offered by AquaRefining represent a potential step change in lead recycling technology and recovered product quality, one that can deliver advantages in footprint and logistics while reducing the environmental impact of lead recycling.

The modular nature of AquaRefining makes it possible both to start LAB recycling at a smaller scale than is possible with a typical smelter setup, and to add AquaRefining to existing battery recycling operations to expand production capacity or to reduce smelting processes. Our plan is to pursue two complementary business streams. The first is to supply AquaRefining and supporting equipment to third parties to supplement or replace smelting in their battery recycling operations. We intend to pursue this at least initially through our relationship with Johnson Controls Inc., with which we have entered exploratory discussions centered on the addition of AquaRefining to one of its existing battery recycling operations. The second is to expand our own lead recycling operations, subject to our receipt of additional capital.

Our Markets

The Lead Market

Lead is a globally traded commodity and is the essential component of over 95% of the world's rechargeable batteries. Lead is globally 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 in existing mines. 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 2017, secondary lead traded in a range of approximately \$2,000 to \$2,600 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 (whom are typically battery manufacturers). 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 U.S. and Global lead markets, different grades (termed alloys) of lead are traded at a premium to the LME price. Lead by-products (lead compounds) can trade at a discount to the LME based on the amount of lead content.

Lead Smelting

Currently, smelters produce virtually all the world's mined and recycled lead. Smelting is an energy intensive and often highly polluting process. At its core, smelting is a high temperature (excess of 1000°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 bullion lead and waste slag. 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.

In addition to the 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 less 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 technologies, in terms of energy capacity deployed and installed manufacturing capacity, it dominates the battery industry today. 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", LABs 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 was expected to be 20% higher than it was in 2012. Similar prospects for healthy growth in the lead industry continue to be published and support continued growth in demand for lead for at least the next 20 years. 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 much 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.

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 issued patents and pending-patent applications. 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 high purity lead suitable for use in LAB production.

Similar to conventional LAB smelter 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 (lead compounds) are first processed to remove sulfur and then dissolved in our solvent. Lead is then plated from the solvent using our patented and patent-pending process allowing the solvent to be reused.

Our AquaRefining process can generate 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; and
- Recovered plastic chips, intended for re-use in the manufacture of battery casings and other recycled plastic products.

We expect to derive revenue primarily from the sale of lead-based products, with additional revenue derived from the sale of plastic chips.

A significant benefit of our AquaRefining process is that it is capable of producing high purity (sometimes called primary grade) lead from secondary sources. Primary grade lead is sold directly to battery companies.

Another significant benefit of our process is that we designed our AquaRefining equipment 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 more than 400 metric tons per day all based on our standard module.

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 due to the nature of our process. One of our key objectives will be to educate regulators and the public as to the environmental benefits of AquaRefining. We believe that we have the potential to develop a business model that offers the opportunity to conduct, in an environmentally friendly manner, an important recycling activity that historically has been conducted in an often highly polluting manner.

Our Business Model

Overall, our objective is to progress the lead recycling industry from one which is based primarily on smelting to one which is based on AquaRefining. Our expectation is that this will be a moderately paced process of evolution in which multiple business models will be evaluated. The two business models that we are currently most focused on are:

- 1) the supply of AquaRefining and supporting equipment and services to third parties to use in their recycling operations on a licensing model. We are currently focused on exploring this business stream through our relationship with Johnson Controls;

2) the expansion of our own AquaRefining capacity and facilities, subject to our receipt of additional capital.

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 are evolving our business model to commercialize our technology optimally across multiple locations.

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 less regulatory cost and burden and the opportunity to conduct business in a socially responsible manner.

In the U.S. 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 greenfield lead recycling facilities 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 patented AquaRefining technology and equipment, know-how and services.

Competition

At the present time, our primary competition in the production of lead comes from operators of existing smelters and other parties heavily invested in the existing supply chain for smelting. Our approach to this competition is to make AquaRefining available for the conversion of existing smelter-based facilities. However, it is prudent to assume that outside of our strategic relationships, a conversion to AquaRefining may be resisted by some of the incumbent lead producers. Competition in the supply of lead from such incumbents may come in the form of price competition for lead produced. However, to the extent we are successful in being a producer of high quality lead without the regulatory costs or burden associated with smelting, we should be able to compete effectively with smelting as the preferred method of recycling lead, at least in the more regulated jurisdictions.

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 threatened by our AquaRefining process. Such parties may attempt to restrict our access to used LABs. We have assumed at least some level of interference by incumbents, however, based on our operations to date, including our discussions and arrangements with certain suppliers of used LABs, we do not view access to used LABs be a significant risk to our LAB recycling operations.

Our business plan is not dependent on the acceptance of our process by lead smelters. We still intend to initially focus on operating our own AquaRefining facilities directly and working with Johnson Controls to implement Aqua Refining in a nominated lead smelting facility followed by deployments with additional 3rd 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. We believe that they will still purchase lead from us if we are able to offer it at the market price.

Our First Recycling Facility: McCarran, Nevada

In May 2015, we purchased 11.73 acres of undeveloped land in the Tahoe Reno Industrial Center (TRIC), at McCarran, Nevada where we subsequently built a 136,750 square foot LAB recycling facility.

The building phase was completed by August 2016, at which time we started installing and commissioning equipment. We installed and commissioned the first production AquaRefining module in October 2016 and produced our first lead ingot using electrolyte we produced on-site using materials supplied by a 3rd party, which were recovered from recycled batteries. We verified that the lead we produced by this method was over 99.99 percent pure.

We commenced initial battery breaking during December 2016 and progressed to regular single shift operation of the battery breaker in January 2017. From late 2016 through the date of this report, we implemented a number of upgrades to the facility, the battery breaking and separation processes and other more conventional aspects of our process.

By December 2017, we had installed 16 AquaRefining modules. However, we encountered an issue which required the retrofitting of all 16 modules. As of the date of this report, we expect to complete the retrofit of all 16 modules by late March or early April and to begin to bring all 16 modules into commercial operation. However, due to the delays and unforeseen issues in the completion of the AquaRefining production line we have experienced to date, there can be no assurance that we will not encounter additional delays and issues. During 2018, we expect to continue to invest in further expanding our capability and capacity at our Nevada facility, including additional AquaRefining modules, subject to our receipt of additional capital.

Supply, Off-Take and Other Strategic Agreements

In support of our first facility, 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 Controls 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 plan to 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. Johnson Controls and we have agreed to use good faith, commercial best-efforts to conclude the discussion and negotiation of the development program agreement no later than April 30, 2018, and to enter into a definitive development program agreement no later than June 30, 2018. The equipment supply agreement may be terminated by either party upon 60 days' prior written notice if the parties have not entered into the development program agreement by June 30, 2018, of which there can be no assurance. 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. During fiscal year 2017, the vast majority of revenues were derived from Johnson Controls.

The tolling/lead purchase agreement has a minimum term of five years and upon the expiration of the initial term the agreement, either party can terminate the agreement upon three years prior written notice. 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 from the date of first delivery of used LABs to us 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.

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.

Patent Portfolio

Currently, we have six granted/allowed patents consisting of one each in the U.S. (9837689), Canada (2930945), South Africa (2016-04083), Korea (101739414), Japan (6173595) and Australia (2014353227). The claims of the granted patents substantially address the same subject matter and are drawn to various aspects of processing lead materials using an aqua refining process. Differences in the claim number and scope are due to local rules and practice. We have multiple filed patent applications organized in more than five patent families, in up to 20 countries and patent territories.

We intend to continue to prepare and file domestic and foreign patent applications covering expanding aspects and applications of our technology, as circumstances warrant.

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.

Trademark Portfolio

We have filed for trademark registration in the US and foreign countries for the following trademarks:

- AQUA METALS (US and 15 foreign countries)
- SQUAREFINING (US and 11 foreign countries)
- SQUAREFINE (US only)

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 69 people on a full-time basis. None of our employees are represented by a labor union.

Financial and Segment Information

We operate our business as a single segment, as defined by generally accepted accounting principles. Our financial information is included in the consolidated financial statements and the related notes.

Available Information

Our website is located at www.aquametals.com and our investor relations website is located at 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. 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 revenue producing operations, it is difficult for potential investors to evaluate our business. We formed our corporation in June 2014 and only commenced revenue producing operations in the first quarter of 2017. From inception through December 31, 2017, we have generated a total of \$2.1 million of revenue, all of which was derived from the sale of lead compounds and plastics during the year ended December 31, 2017. To date, our operations have consisted of the development and testing of our AquaRefining process, the construction of our initial LAB recycling facility in Tahoe Regional Industrial Center, McCarran, Nevada (“TRIC”), the continuing development of our LAB recycling operations at TRIC and limited revenue producing operations as we bring those LAB recycling operations online. Our limited operating history makes it difficult for potential investors to evaluate our technology or prospective operations. As an early stage company, we are subject to all the risks inherent in the initial organization, financing, expenditures, complications and delays in a new business, including, without limitation:

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

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

Our business is dependent upon on our development and successful implementation of novel and unproven technologies and processes and there can be no assurance that we will be able to develop and implement such technologies and processes in a manner that supports the successful commercial roll-out of our business model. While much of the technology and processes involved in our lead recycling operations are widely used and proven, the AquaRefining component of our lead recycling operations is largely novel and unproven. While we have shown that our proprietary technology can produce AquaRefined lead on a small scale, we have only recently completed, and have not put into operation, the processes that we believe will support the production of AquaRefined lead on a commercial scale. Further, as we complete our AquaRefining production line, we continue to encounter unforeseen complications that have delayed the installation and commissioning of our AquaRefining modules and the integration of our AquaRefining process with the traditional lead recycling operations. For example, we most recently had to develop special processes and equipment to deal with an unexpected development in the form of “sticky lead,” whereby the AquaRefined lead produced by our electrolyzers sticks to the AquaRefining modules’ exit chute and fails to exit without manual intervention. We believe we have developed a process that will allow for the exit of the AquaRefined lead without manual intervention, however, this additional process will require a certain amount of retrofitting of our modules that will delay our planned commercial operation of all 16 modules. There can be no assurance that we will not encounter additional unforeseen complications that will cause further delays in our planned commercial operation of our AquaRefining modules or prevent us from commencing commercial production of AquaRefined lead at all.

We will need additional financing to execute our business plan and fund operations, which additional financing may not be available on reasonable terms or at all. As of December 31, 2017, we had total cash of \$22.8 million and working capital of \$21.9 million. As of the date of this Annual Report, we believe that we have working capital sufficient to fund the commissioning and commercial operation of 16 AquaRefining modules at TRIC over the 12 months from the date of this Annual Report. However, we will require additional capital in order to increase production of AquaRefined lead at TRIC beyond that planned for 16 modules, to work with Johnson Controls on equipment integration and licensing to third parties, to fund working capital needs related to the ramp-up of our operations and to fund our continued losses from operations until such time as we are able to achieve positive cash flow from operations. There can be no assurance that we will be able to acquire the necessary funding on commercially reasonable terms or at all. There can also be no assurance we will be able to conclude the proposed development agreement with Johnson Controls. We intend to seek additional funds through various financing sources, including the sale of our equity and debt securities, licensing fees for our technology, joint ventures with capital partners and/or project financing of our recycling facilities. However, there can be no assurance that such funds will be available on commercially reasonable terms, if at all. If such funding is not available on satisfactory terms, we may be unable to further pursue our business plan and we may be unable to continue operations, in which case you may lose your entire investment.

We are subject to restrictive debt covenants that may limit our ability to run our business, finance our capital needs and pursue business opportunities and activities. As of the date of this Annual Report, we are indebted to Green Bank for approximately \$9.8 million and Interstate Battery for approximately \$6.0 million, all of which is secured by liens on substantially all of our assets. The credit agreements governing such indebtedness contain covenants that limit our ability to take certain actions. These covenants could limit our ability to finance our future operations and capital needs and our ability to pursue business opportunities and activities that may be in our interest. If we breach any of these covenants, the debt holder could declare a default under the credit agreement, in which case all of the indebtedness may then become immediately due and payable. In addition, any default under one credit agreement could lead to an acceleration of debt under the other credit agreement pursuant to cross-acceleration or cross-default provisions. If the debt under either credit agreement is accelerated, we may not have, or be able to obtain, sufficient funds to make these accelerated payments. In addition, since all of the indebtedness to Green Bank and Interstate Battery is secured by substantially all of our assets, a default under either credit facility could enable the debtholder to foreclose on its security interest and attempt to seize our assets. The affirmative and negative debt covenants could materially adversely impact our ability to operate and finance our business. In addition, our default under any of these covenants could subject us to accelerated debt payments or foreclosure proceedings that could threaten our ability to continue as a going concern.

Interstate Battery currently claims that we are in breach of a negative covenant with Interstate Battery and we have not been able to comply with our debt service covenant with Green Bank. As of the date of this report, Interstate Battery has raised a claim that we are in technical breach of a negative covenant under our loan with Interstate Battery. The claimed breach relates to our failure to obtain Interstate Battery's prior written consent to our acquisition of Ebonex IPR, Ltd. We believe we will be able to resolve the matter. However, in the event we are unable to resolve the matter, Interstate Battery may declare a default under the loan and attempt to accelerate the payment of all amounts thereunder. There can be no assurance we will be able to resolve the claimed breach or that Interstate Battery will not declare a default under the loan and attempt to accelerate the payment of all amounts thereunder. In addition, our credit agreement with Green Bank requires, among other affirmative and negative covenants, that we maintain a minimum debt service coverage ratio of 1.25 to 1.0 beginning with the twelve-month period ending March 31, 2017. We failed to meet the minimum debt service coverage ratio covenant as of March 31, June 30, September 30, and December 31, 2017, and we were required to obtain a waiver of the minimum debt service coverage ratio covenant from Green Bank for such periods. There can be no assurance that Green Bank will provide waivers of this covenant, or any other covenant that we may fail to satisfy, going forward. Our default under either the Interstate Battery or Green Bank loan covenants could subject us to accelerated debt payments or foreclosure proceedings that could threaten our ability to continue as a going concern.

In the event of the acceleration of either the Interstate Battery or Green Bank loans, we will need additional financing to satisfy our obligations under the loans, which additional financing may not be available on reasonable terms or at all. As noted above, as of the date of this report, we are indebted to Green Bank for approximately \$9.8 million and Interstate Battery for approximately \$6.0 million. The credit agreements governing such indebtedness contain various affirmative and negative covenants and if we breach any of these covenants, the debt holder could declare a default under the credit agreement, in which case all of the indebtedness may then become immediately due and payable. In addition, any default under one credit agreement could lead to an acceleration of debt under the other credit agreement pursuant to cross-acceleration or cross-default provisions. If the debt under either credit agreement is accelerated, we may not have sufficient funds to make the accelerated payments, in which case we would be required to seek additional funds through various financing sources, most likely through the sale of our equity or debt securities. However, there can be no assurance that such funds will be available on commercially reasonable terms, if at all. Further, any sale of our equity or equity-linked securities will result in additional dilution to our stockholders.

Our outstanding debt may make it difficult for us obtain additional financing using our future operating cash flow. We currently have a substantial amount of indebtedness, including approximately \$9.8 million owed to Green Bank and approximately \$6.0 million owed to Interstate Battery as of the date of this prospectus supplement. Such indebtedness could limit our ability to borrow additional funds to fund operations or expansion or increase the cost of any such borrowing, or both. Our inability to conduct additional debt financing could:

- limit our flexibility in developing our business operations and planning for, or reacting to, changes in our business;

- increase our vulnerability to, and reduce our flexibility to respond to, general adverse economic and industry conditions; and
- place us at a competitive disadvantage as compared to our competitors that are not as highly leveraged.

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

Our business model is new and has not been proven by us or anyone else. We are engaged in the business of producing recycled lead through a novel and unproven technology. While the production of recycled lead is an established business, to date all recycled lead has been produced by way of traditional smelting processes. To our knowledge, no one has successfully produced recycled lead in commercial quantities other than by way of smelting. In addition, our lead recycling production line at TRIC is the first-of-its-kind and neither we nor anyone else has ever successfully built a production line that commercially recycles LABs without smelting. While we have commenced limited lead recycling operations at our TRIC facility, to date all revenues have been derived from the sale of lead compounds and plastics and we have not commenced the commercial production of AquaRefined lead. In addition to the general risks associated with a novel and unproven technology, our business model is subject to a number of related risks, including:

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

Further, there can be no assurance that we will be able to produce AquaRefined lead in commercial quantities at a cost of production that will provide us with an adequate profit margin. The uniqueness of our AquaRefining process and our production line at TRIC presents potential risks associated with the development of a business model that is untried and unproven.

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

Even if we are successful in recycling lead using our processes, there can be no assurance that the AquaRefined lead will meet the certification and purity requirements of our potential customers. A key component of our business plan is to produce recycled lead through our AquaRefining process of the highest purity (at least 99.99% pure lead), which we refer to as AquaRefined lead. We believe that our AquaRefined lead will provide us with the highest gross profit margin and, more importantly, our ability to produce AquaRefined lead will be vital to confirming the efficacy and relevancy of our proprietary technology. Our customers will require that our AquaRefined lead meet certain minimum purity standards and, in all likelihood, require independent assays to confirm the lead's purity. As of the date of this report, we have produced limited quantities of AquaRefined lead. However, we have not produced AquaRefined lead in commercial quantities and there can be no assurance that we will be able to do so or, if we are able to produce AquaRefined lead in commercial quantities, that such lead will meet the required purity standards of our customers. If we are unable to commercially produce AquaRefined lead that meets the purity standards established by our customers, our entire business plan may be invalidated and you may suffer the loss of your entire investment.

While we have been successful in producing AquaRefined lead in small volumes, there can be no assurance that we will be able to replicate the process, along with all of the expected economic advantages, on a large commercial scale. As of the date of this report, our commercial operations have involved the production of lead compounds and plastics from recycled LABs and we have not commenced the commercial production of AquaRefined lead. While we believe that our development, testing and limited production to date has validated the concept of our AquaRefining process, the limited nature of our operations to date are not sufficient to confirm the economic returns on our production of recycled lead. There can be no assurance that the commencement of commercial production of AquaRefined lead at our TRIC facility will not incur unexpected costs or setbacks that might restrict the desired scale of our intended operations or that we will be to produce AquaRefined lead in commercial quantities at a cost of production that will provide us with an adequate profit margin.

We have completed the construction of our initial LAB recycling facility at TRIC, however we have been delayed in the completion of our lead recycling operations at TRIC and we may encounter further delays. We completed the construction of our initial LAB recycling facility at TRIC in August 2016 and commenced the limited production of recycled lead in the first quarter of 2017. However, as of the date of this report, our commercial operations have involved the production of lead compounds and plastics from recycled LABs and we have not commenced the commercial production of AquaRefined lead. As of December 2017, we have installed 16 AquaRefining modules. However, we encountered an issue which required the retrofitting of all 16 modules. As of the date of this report, we expect to complete the retrofit of all 16 modules by late March or early April and to begin to bring all 16 modules into commercial operation. However, due to the delays and unforeseen issues in the completion of the AquaRefining production line we have experienced to date, there can be no assurance that we will not encounter additional delays and issues. In addition, since our lead recycling production line at TRIC is the first-of-its-kind, neither we nor anyone else has ever built a facility of this nature and there can be no assurance that we will not experience continuing operational delays and issues, including significant downtime from time to time, as we progress into the commercial production of AquaRefined lead. There can be no assurance that the commencement of commercial AquaRefining operations at our TRIC facility will not incur unexpected costs or hurdles that might restrict the desired scale of our intended operations or negatively impact our projected gross profit margin.

Our intellectual property rights may not be adequate to protect our business. As of the date of this report, we have secured international patents in Korea (Korea Patent No. 10-1739414), Japan (Japan Patent No. 6173595) Australia (Australia Patent No. AU2014353227), United States (US 9837689), and South Africa (ZA 2016.04083), and secured allowance in Canada (CA 2930945). We also have further patent applications pending in the United States and numerous corresponding patent applications pending in 20 additional jurisdictions relating to certain elements of the technology underlying our AquaRefining process and related apparatus and chemical formulations. However, no assurances can be given that any patent issued, or any patents issued on our current and any future patent applications, will be sufficiently broad to adequately protect our technology. In addition, we cannot assure you that any patents issued now or in the future will not be challenged, invalidated, or circumvented.

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

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

Our business strategy includes licensing arrangements and entering into joint ventures and strategic alliances, however as of the date of this report we have no such agreements in place and there can be no assurance we will be able to do so. Failure to successfully integrate such licensing arrangements, joint ventures, or strategic alliances into our operations could adversely affect our business. We propose to commercially exploit our AquaRefining process, 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, including Johnson Controls, among others. However, as of the date of this report, we have not entered into any such licensing, joint venture or strategic alliance agreements, apart from our equipment supply agreement with Johnson Controls, and there can be no assurance that we will be able to do so on terms that benefit us, if at all. In addition, licensing programs, joint ventures and strategic alliances may involve significant other risks and uncertainties, 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.

There can be no assurance that we will be able to negotiate our key agreement with Johnson Controls on commercially reasonable terms, or at all. In February 2017, we entered into a series of agreements with Johnson Controls, including an equipment supply agreement pursuant to which, among other things, we agreed to work with Johnson Controls on the development of a program for the 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 AquaRefining technology and equipment, know-how and services. The equipment supply agreement discusses the development of the conversion program in general terms and contemplates that the parties will enter into a definitive development program agreement that is based on the general terms set forth in the equipment supply agreement and provides more detailed terms and conditions, including the economic obligations and rights of each party. We have agreed not to license our AquaRefining technology and equipment to third parties in the aforementioned regions until such time as we and Johnson Controls have agreed on certain matters relating to the initial conversion of a Johnson Controls facility. Johnson Controls and we have agreed to use good faith, commercial best-efforts to conclude the discussion and negotiation of the development program agreement no later than April 30, 2018, and to enter into a definitive development program agreement no later than June 30, 2018. The equipment supply agreement may be terminated by either party upon 60 days' prior written notice if the parties have not entered into the development program agreement by June 30, 2018. There can be no assurance that we will be able to negotiate and conclude a definitive development program agreement with Johnson Controls on commercially reasonable terms, or at all.

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

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

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. Used LABs are our primary raw material and we believe that in recent years the cost of used LABs has been volatile at times. In addition, we believe that the cost of used LABs can be seasonal, with prices trending lower in the winter months (as automobile owners increase their purchase of new LABs, thereby putting a greater number of used LABs on the market) and trend higher in the spring (as the purchase of new LABs, and supply of used LABs, decreases). Our principal product, recycled lead, has also experienced price volatility from time to time as well. For example, the market price of lead on the London Metal Exchange, or LME, during 2017 ranged from approximately \$2,000 to \$2,600 per tonne. While we intend to pursue supply and tolling arrangements as appropriate to offset any price volatility, the volatile nature of prices for used LABs and recycled lead could have an adverse impact on our liquidity, growth prospects and results of operations.

Global economic conditions could negatively affect our prospects for growth and operating results. Our prospects for growth and operating results will be directly affected by the general global economic conditions of the industries in which our suppliers, partners and customer groups operate. We believe that the market price of our principal product, recycled lead, is relatively volatile and reacts to general global economic conditions. Lead prices decreased from \$2,139 per tonne on May 5, 2015 to a low of \$1,554 per tonne on November 23, 2015 because of fluctuations in the market. A month later, the price per tonne increased back up to \$1,801 per tonne; the price per tonne was \$2,495 on December 31, 2017. Our business will be highly dependent on the economic and market conditions in each of the geographic areas in which we operate. These conditions affect our business by reducing the demand for LABs and decreasing the price of lead in times of economic down turn and increasing the price of used LABs in times of increasing demand of LABs and recycled lead. There can be no assurance that global economic conditions will not negatively impact our liquidity, growth prospects and results of operations.

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

- increased cost of enforcing our intellectual property rights;
- 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.

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

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

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

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

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

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

Risks Related to Owning Our Common Stock

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

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

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

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

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

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

We will remain an “emerging growth company until 2020, although we will lose that status sooner if our revenues exceed \$1 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 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 28,694,210 shares of our common stock outstanding as of the date of this annual report, approximately 25,699,794 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 3,711,872 shares of restricted common stock sold to Interstate Battery in May 2016, 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. Both registration statements were declared effective by the SEC and the shares registered thereunder are eligible for sale without restriction. 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.

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. We do not intend to renew this lease.

We have developed a 136,750 square foot LAB recycling facility on 11.73 acres of land located in TRIC, a 107,000-acre park located nine miles east of Reno, Nevada on I-80.

Item 3. Legal Proceedings

Beginning on December 15, 2017, three purported class action lawsuits were filed in the United States District Court for the Northern District of California against us, Stephen R. Clarke, Thomas Murphy and Mark Weinswig: *Arlis Hampton vs. Aqua Metals, Inc. et al.*, Case No 3:17-cv-07142; *Grant Heath vs. Aqua Metals, Inc. et al.*, Case No 3:17-cv-07196-JST; *Lotfy Arbab vs. Aqua Metals, Inc. et al.*, Case No 3:17-cv-07270WHA. Each of the complaints was filed by persons claiming to be stockholders of Aqua Metals and generally allege violations of the anti-fraud provisions of the federal securities laws based on the alleged issuance of false and misleading statements of material fact, and the alleged omission to state material facts necessary to make other statements made not misleading, between May 19, 2016 and November 9, 2017 with respect to our lead recycling operations. The complaints seek unspecified damages and plaintiffs' attorneys' fees and costs. As of the date of this report, multiple plaintiffs have filed motions seeking appointment as lead plaintiff. Briefing on those competing motions was completed in early March, and a hearing is set for May 17, 2018. We have not filed a responsive pleading in any of the above actions and do not expect to do so until a lead plaintiff has been appointed by the Court. We deny that the claims in any of the complaints have any merit and we intend to vigorously defend the actions.

Beginning on February 2, 2018, two purported shareholder derivative actions were filed in the United States District Court for the District of Delaware against us and our current executive officers and directors, Stephen R. Clarke, Selwyn Mould, Mark Weinswig, Vincent DiVito, Mark Slade and Mark Stevenson, and one former officer and director, Thomas Murphy: *Al Lutzker, Derivatively and on Behalf of Aqua Metals, Inc. v. Stephen R. Clarke, Thomas Murphy, Mark Weinswig, Selwyn Mould, Vincent L. Divito, Mark Slade and Mark Stevenson and Aqua Metals, Inc.*, Case No. 1:18-cv-00327. The complaints were filed by persons claiming to be stockholders of Aqua Metals and generally alleges that certain of our officers and directors breached their fiduciary duties to us by violating the federal securities laws and exposing us to possible financial liability. The complaints seek unspecified damages and plaintiffs' attorneys' fees and costs. As of the date of this report, we have not filed a responsive pleading in either action. We deny that the claims in the shareholder derivative action have any merit and we intend to vigorously defend the action.

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

Item 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 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.

	2017		2016		2015	
	High	Low	High	Low	High	Low
First Quarter	\$ 21.89	\$ 10.68	\$ 6.65	\$ 4.51	\$ —	\$ —
Second Quarter	\$ 18.56	\$ 10.44	\$ 12.92	\$ 7.15	\$ —	\$ —
Third Quarter	\$ 12.55	\$ 5.49	\$ 12.73	\$ 8.18	\$ 5.50	\$ 4.78
Fourth Quarter	\$ 6.91	\$ 1.88	\$ 13.66	\$ 8.62	\$ 5.38	\$ 4.85

Holders of Record

As of March 9, 2018, there were 18 holders of record of our common stock.

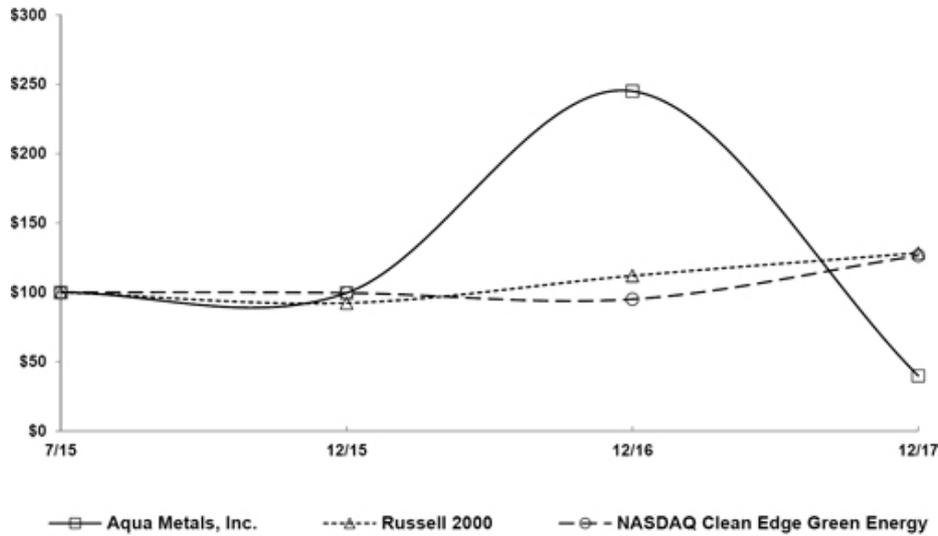
Stock Performance Graph

The following graph compares cumulative total return of our common stock with the cumulative total return of (i) the Russell 2000 Index, and (ii) the NASDAQ Clean Edge Green Energy Index. The graph assumes (a) \$100 was invested on July 31, 2015, the first day that our common stock was traded publicly, in each of our common stock, the stocks comprising the Russell 2000 Index and the stocks comprising the NASDAQ Clean Edge Green Energy Index. The comparisons shown in the graph are based on historical data and the stock price performance shown in the graph is not necessarily indicative of, or intended to forecast, future performance of our stock.

This performance graph shall not be deemed “soliciting material” or to be “filed” with the SEC for purposes of Section 18 of the Securities and Exchange Act of 1934 or otherwise subject to the liabilities under that Section, and shall not be deemed incorporated by reference into any filing of Aqua Metals, Inc. under the Securities Act of 1933.

COMPARISON OF 29 MONTH CUMULATIVE TOTAL RETURN*

Among Aqua Metals, Inc., the Russell 2000 Index
and the NASDAQ Clean Edge Green Energy Index



*\$100 invested on 7/31/15 in stock or index, including reinvestment of dividends.
Fiscal year ending December 31.

Dividend Policy

We have never declared or paid cash dividends on our common stock. We presently intend to retain earnings, if any, 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 2,113,637 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, 2017.

Plan Category	Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights	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	759,764(1) \$	6.51	1,065,003
Equity compensation plans not approved by stockholders	2,340,828(2) \$	8.45	—

(1) Includes 578,813 shares relating to outstanding options and 180,951 relating to restricted stock units under our Amended and Restated 2014 Stock Incentive Plan.

(2) Consists of warrants issued in connection with financing activities.

Unregistered Sales of Equity Securities and Use of Proceeds

None.

Item 6. Selected Financial Data

Set forth below is selected consolidated financial data of Aqua Metals, Inc. as of and for the years ended December 31, 2017, 2016, 2015 and the period from June 2014 (inception) to December 31, 2014. The financial data has been obtained or derived from our audited consolidated financial statements. The information below is not necessarily indicative of the results of future operations and should be read in conjunction with Item 7, “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” and Item 1A, “Risk Factors,” of this Annual Report on Form 10-K, and the consolidated financial statements and related notes thereto included in Item 8, “Financial Statements and Supplementary Data”, of this Annual Report on Form 10-K, in order to fully understand factors that may affect the comparability of the information presented below.

	Year Ended December 31,			Period from Inception (June 20, 2014) to December 31, 2014
	2017	2016	2015	
(in thousands, except share and per share data)				
Consolidated Statements of Operations:				
Product sales	\$ 2,088	\$ —	\$ —	\$ —
Operating cost and expense				
Cost of product sales	9,541	—	—	—
Research and development cost	8,103	6,348	2,280	231
General and administrative expense	6,891	6,610	3,171	1,176
Impairment charge	2,411	—	—	—
Total operating expense	26,946	12,958	5,451	1,407
Loss from operations	(24,858)	(12,958)	(5,451)	(1,407)
Other income and expense				
Increase in fair value of derivative liabilities	—	—	(5,776)	(1,172)
Interest expense	(1,761)	(639)	(1,128)	(217)
Interest and other income	41	41	26	1
Total other income (expense), net	(1,720)	(598)	(6,878)	(1,388)
Loss before income tax expense	(26,578)	(13,556)	(12,329)	(2,795)
Income tax expense	(2)	(1)	(3)	421
Net loss	\$ (26,580)	\$ (13,557)	\$ (12,332)	\$ (2,374)
Weighted average shares outstanding, basic and diluted	20,293,100	15,267,233	8,404,311	4,363,641
Basic and diluted net loss per share	\$ (1.31)	\$ (0.89)	\$ (1.47)	\$ (0.54)

	As of December 31,	
	2017	2016
Selected Consolidated Balance Sheet Data:		
Cash, cash equivalents	\$ 22,793	\$ 25,458
Total assets	74,442	71,529
Working capital	21,850	23,339
Current liabilities	3,834	4,031
Long-term obligations, less current portion	11,643	10,508
Common stock and additional paid-in capital	113,807	85,252
Accumulated deficit	(54,842)	(28,262)
Total stockholders' equity	58,965	56,990

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 proprietary AquaRefining™ technology. AquaRefining is a room temperature, water-based process that is fundamentally non-polluting. Our AquaRefining modular systems allow the lead-acid battery industry to simultaneously improve environmental impact and scale recycling production to meet 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 construction of our initial lead acid battery, or LAB, recycling facility in the Tahoe Regional Industrial Center, McCarran, Nevada ("TRIC"), the continuing development of our LAB recycling operations at TRIC as we bring those LAB recycling operations online.

We have completed the building construction of our first LAB recycling facility at TRIC and commenced production during the first quarter of 2017. The TRIC facility will produce recycled lead, consisting of lead compounds, ingoted hard lead and ingoted AquaRefined lead as well as plastic. We commenced the shipment of products for sale, consisting of lead compounds and plastics, in April 2017 and to the date of this report all revenue has been derived from the sale of lead compounds and plastics.

By December 2017, we had installed 16 AquaRefining modules. However, we encountered an issue which required the retrofitting of all 16 modules. As of the date of this report, we expect to complete the retrofit of all 16 modules by late March or early April and to begin to bring all 16 modules into commercial operation. However, due to the delays and unforeseen issues in the completion of the AquaRefining production line we have experienced to date, there can be no assurance that we will not encounter additional delays and issues.

Since January 1, 2017, we have engaged in the following financing transactions:

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.

Public Offering. On December 12, 2017, we completed a public offering of 7,150,000 shares of our common stock, at the public offering price of \$2.10 per share, for gross proceeds of \$15 million. After the payment of underwriter discounts and offering expenses we received net proceeds of approximately \$13.8 million. In January 2018, the underwriter exercised their overallotment option resulting in an additional 1,072,500 shares being issued and net proceeds to us of approximately \$2.1 million.

Plan of Operations

Our plan of operations for 2018 is to complete the assembly and retro-fit of all 16 AquaRefining modules installed at TRIC and to ramp up the production of AquaRefined lead during 2018. We plan to install an additional 16 AquaRefining modules to our TRIC facility, subject to our receipt of additional capital and any design improvements that are recommended based on the operation of the first 16 modules.

Subject to our ability to ramp up our AquaRefining operations to a commercial scale, our priority will be to develop a proposal to provide equipment, planning, engineering, technical and other services in support of the addition of an AquaRefining facility to a battery recycling facility owned by Johnson Controls. This proposed work is expected to produce a blueprint for further additions of AquaRefining facilities under a proposed definitive development agreement with Johnson Controls. Pursuant to that definitive agreement we plan to collaborate with Johnson Controls for the conversion of its own and certain of its strategic partners' existing lead smelters to a lead recycling process utilizing our proprietary AquaRefining technology, equipment, know-how and services. However, there can be no assurance that we will be able to conclude a definitive development agreement with Johnson Controls on terms that benefit us, if at all.

Our 12-month plan of operations includes the pursuit and evaluation of additional strategic relationships to support the expansion of our own facilities and/or the provision of equipment and services to third parties.

Additional funding will be required to increase production of AquaRefined lead at TRIC beyond that planned for 16 modules, to work with Johnson Controls on equipment integration and licensing to third parties, to fund working capital needs related to the ramp-up of our operations and to fund our continued losses from operations until such time as we are able to achieve positive cash flow from operations. We intend to seek additional funds through various financing sources, including the sale of our equity and debt securities, licensing fees for our technology, joint ventures with capital partners and/or project financing of our recycling facilities. However, there can be no guarantees that such funds will be available on commercially reasonable terms, if at all.

Results of Operations for the Fiscal Year Ended December 31, 2017 Compared to the Fiscal Year Ended December 31, 2016

We were formed on June 20, 2014 and did not commence revenue producing operations until January 2017. During the second quarter of 2017, we began shipments of lead compounds and plastics to customers. The following table summarizes results of operations with respect to the items set forth below for the year ended December 31, 2017 and 2016 together with the percentage change in those items (in thousands).

	Year ended December 31,			
	2017	2016	Favorable (Unfavorable)	% Change
Product sales	\$ 2,088	\$ —	\$ 2,088	—
Cost of product sales	9,541	—	(9,541)	—
Research and development cost	8,103	6,348	(1,755)	27.65%
General and administrative expense	6,891	6,610	(281)	4.25%
Impairment charge	2,411	—	(2,411)	—
Total operating expense	\$ 26,946	\$ 12,958	\$ (13,988)	107.95%

As mentioned above, product sales, consisting of lead compounds and plastics began in April 2017. Cost of product sales consists of all operating costs incurred at TRIC following the commencement of product sales. Costs incurred at TRIC prior to commencement of sales are included in research and development costs. Cost of product sales includes raw materials, supplies and related costs, salaries and benefits, consulting and outside services costs, depreciation and amortization costs and insurance, travel and overhead costs. There are no comparatives for the previous periods.

Research and development cost included TRIC operating cost prior to the commencement of product sales, including cost incurred to prepare our TRIC plant for operations. During the year ended December 31, 2017, research and development costs increased by 28% over the comparable period in 2016. At December 31, 2016, we had 30 employees in the TRIC facility and we focused on building the plant (cost included in research and development expense). At December 31, 2017, we had 41 employees at the TRIC facility and are focused on recycling lead operations as well as continuing to commission various processes within the plant (cost included in research and development expense until product sales began, at which point forward they were included in cost of product sales). The increase in research and development cost during the year ended December 31, 2017 versus the prior period is due to increased level of operations and commissioning of our plant in TRIC. We expect that research and development expenses will decrease from the current level going forward as all the cost related to TRIC will be included in cost of product sales.

General and administrative expense has been relatively consistent during the years ended December 31, 2017 and December 31, 2016. The small increase is primarily due to our \$0.6 million accrual for estimated costs to resolve a claim of breach of a negative covenant in our convertible loan agreement with Interstate Battery.

As described above in Note 6 to the Condensed Consolidated Financial Statements, in April 2017, we acquired all of the capital shares of Ebonex IPR Limited for consideration of \$2.5 million, consisting of cash, transaction costs and 123,776 shares of our common stock. The principal asset of Ebonex IPR Limited consisted of a patent portfolio with an independent fair value of \$112,000. Included in the purchase were certain fixed assets that have been determined by management to have no immediate value and were not considered in the valuation of Ebonex IPR.

Due to the fair value of the patent portfolio being significantly less than total consideration, the early development stage of the technology acquired and the uncertainties inherent in research and development, we recorded a non-cash impairment charge of \$2.4 million during the year ended December 31, 2017.

The following table summarizes our other income and interest expense for the year ended December 31, 2017 and 2016 together with the percentage change in those items (in thousands).

	Year ended December 31,			% Change
	2017	2016	Favorable (Unfavorable)	
Other (expense) income				
Interest expense	(1,761)	(639)	\$ (1,122)	175.59%
Interest and other income	41	41	\$ —	0.00%

Interest during the year ended December 31, 2017 relates primarily to the \$5.0 million Interstate Battery convertible note and the \$10.0 million notes payable, amortization of debt issuance costs incurred in connection with both of these notes, as well as an accrual for the USDA guarantee fee on the \$10.0 million note to Green Bank. Interest relating to the \$10.0 million notes payable during the year ended December 31, 2016 and 2015 was capitalized as part of the building cost of the TRIC facility in the amount of \$0.5 million and \$0.1 million, respectively. Interest capitalization ceased upon completion of the building in 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. Thus, non-cash interest expense associated with the note discount amortization was \$0.4 million in 2017 and will be \$2.0 million in 2018 and \$2.6 million in 2019.

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

Thru December 31, 2016, our operations consisted of the development and limited testing of our AquaRefining process, the development of our business plan, the raise of our 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,			% Change
	2016	2015	Favorable (Unfavorable)	
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 nearly tripled from 2015 to 2016. The increase was due to the increased level of operations following the completion of our initial public offering in August 2015. Salary related expenses 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 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 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 increased by approximately \$0.9 million for the year ended December 31, 2016 versus 2015, which included both third-party consulting and legal fees and primarily related 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 included 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 was 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%

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 was 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 related 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.

Liquidity and Capital Resources

As of December 31, 2017, we had total assets of \$74.4 million and working capital of \$21.9 million, and in January 2018 we acquired an additional \$2.1 million from the exercise of the underwriter's overallotment option relating to our December 2017 public offering.

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

	Year ended December 31,		
	2017	2016	2015
Net cash used in operating activities	(19,002)	(11,121)	(1,476)
Net cash used in investing activities	(8,651)	(19,063)	(25,044)
Net cash provided by financing activities	24,988	35,501	42,124

Net cash used in operating activities

Net cash used in operating activities for the year ended December 31, 2017, 2016 and 2015 was \$19.0 million, \$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 the impairment charge (2017) and 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, 2017, 2016 and 2015 was \$8.7 million, \$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, net of changes in restricted cash, and, to a lesser extent, our corporate headquarters during 2016.

Net cash provided by financing activities

Net cash provided by financing activities for the year ended December 31, 2017 primarily consisted of \$13.8 million net proceeds from the issuance of common stock in our December 2017 public offering, \$10.5 million net proceeds from the issuance of common stock to Johnson Controls and \$1.1 million proceeds from the exercise of stock options partially offset by lease and debt payments.

Net cash provided by financing activities for the year ended December 31, 2016 primarily consisted 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 consisted 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, we believe that our working capital is sufficient to fund the commissioning and commencement of commercial operations of at least 16 AquaRefining modules and our commercial operations at TRIC through, at least, December 2018, assuming the successful commercial rollouts of the 16 AquaRefining modules. However, we will require additional capital in order to increase production of AquaRefined lead at TRIC beyond that planned for 16 modules, to work with Johnson Controls on equipment integration and licensing to third parties, to fund working capital needs related to the ramp-up of our operations and to fund our continued losses from operations until such time as we are able to achieve positive cash flow from operations. We intend to seek additional funds through various financing sources, including the sale of our equity and debt securities, licensing fees for our technology, joint ventures with capital partners and/or project financing of our recycling facilities. However, there can be no guarantees that such funds will be available on commercially reasonable terms, if at all. If such financing is not available on satisfactory terms, we may be unable to further pursue our business plan and we may be unable to continue operations. Additionally, Aqua Metals Reno, or AMR, was not in compliance with its the minimum debt service coverage ratio covenant as of and for the three-month periods ended March 31, June 30, September 30, and December 31, 2017 on its loan from Green Bank. AMR received a waiver for the minimum debt service coverage ratio covenant for the periods ended March 31, June 30, September 30, and December 31, 2017. While we expect to continue to receive waivers from Green Bank for non-compliance with such covenant, there is no guarantee that we will receive such waivers. If Green Bank determines not to grant us a waiver for non-compliance in the future, we would be in default of the loan and Green Bank would be able to accelerate the payment of all amounts under the loan. In addition, a failure by Green Bank to provide us with the required waiver could also constitute a default under our \$5 million loan with Interstate Battery and allow it to accelerate the payment of all amounts thereunder.

As of the date of this report, Interstate Battery has raised a claim that we are in technical breach of a negative covenant under our \$5 million loan from Interstate Battery. The claimed breach relates to our failure to obtain Interstate Battery's prior written consent to our acquisition of Ebonex IPR, Ltd. In the event we are unable to resolve the matter, Interstate Battery may declare a default under the loan and attempt to accelerate the payment of all amounts thereunder. There can be no assurance we will be able to resolve the claim of breach or that Interstate Battery will not declare a default under the loan and attempt to accelerate the payment of all amounts thereunder.

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 estimated asset retirement obligations, 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.

Accounts receivable

We sell our products to large well-established companies and extend credit without requiring collateral, based on an ongoing evaluation of the customer's business prospects and financial condition. In the event that payment of a customer's account receivable is doubtful, we would reserve the receivable under an allowance for doubtful accounts.

Inventory

Inventory is stated as the lower of cost or net realizable value. Inventory cost is recorded on a first-in, first-out basis using the weighted average method. Net realizable value is determined as the estimated selling price in the ordinary course of business, less reasonably predictable costs of completion, disposal, and transportation.

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.

Asset retirement obligations

We record the fair value of estimated asset retirement obligations associated with tangible long-lived assets in the period incurred. Retirement obligations associated with long-lived assets are those for which there is an obligation for closures and/or site remediation at the end of the assets' useful lives. These obligations are initially estimated based on discounted cash flow estimates and are accreted to full value over time through charges to operating expense. In addition, asset retirement costs are capitalized as part of the related asset's carrying value and are depreciated on a straight-line basis over the assets' respective useful lives.

Revenue Recognition

The Company records revenue recognition in accordance with ASC 606, *Revenue from Contracts with Customers*. ASC 606 provides a single comprehensive model for the recognition of revenue arising from contracts with customers and supersedes most current revenue recognition guidance, including industry-specific guidance. It requires an entity to recognize revenue when the entity transfers promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. ASC 606 creates a five-step model that requires entities to exercise judgment when considering the terms of contract(s), which includes (1) identifying the contract(s) with the customer, (2) identifying the separate performance obligations in the contract, (3) determining the transaction price, (4) allocating the transaction price to the separate performance obligations, and (5) recognizing revenue as each performance obligation is satisfied. ASC 606 requires additional disclosure about the nature, amount, timing and uncertainty of revenue and cash flows arising from customer contracts, including qualitative and quantitative information about contracts with customers, significant judgments and changes in judgments and assets recognized from costs incurred to obtain or fulfill a contract.

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.

Contractual Obligations and Commitments

The following table summarizes our contractual obligations as of December 31, 2017 and the effect such obligations are expected to have on our liquidity and cash flow in the future years (in thousands):

	Total	Less than 1 year	1 to 3 years	3 to 5 years	More than 5 years
Operating lease obligations	\$ 2,297	\$ 504	\$ 1,028	\$ 765	—
Capital lease obligations	137	127	10	—	—
Convertible debt	5,961	—	5,961	—	—
Notes payable	9,784	277	608	692	8,207
	<u>\$ 18,179</u>	<u>\$ 908</u>	<u>\$ 7,607</u>	<u>\$ 1,457</u>	<u>\$ 8,207</u>

Operating lease obligations

We lease our Alameda, California and Oakland, California spaces under non-cancelable operating leases, expiring in 2021 and 2018, respectively.

Capital lease obligations

We financed certain of our lab equipment purchases through the use of capital leases. The lease terms are between 24 and 36 months with an option to purchase the asset at the end of the lease term for \$1.

Convertible debt

Our convertible debt bears interest at 11% per annum and both interest and payable are due at maturity on May 25, 2019. Interest is not convertible. See Note 10 in the accompanying notes to the consolidated financial statements for further description.

Long-term debt

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. See Note 12 in the accompanying notes to the consolidated financial statements for further description.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

We do not enter into financial instruments for trading or speculative purposes. Our cash, cash equivalents and restricted cash balances as of December 31, 2017 consisted of cash and cash equivalents. Our primary exposure to market risk is interest expense related to our debt with Green Bank. The interest rate on this loan adjusts on the first day of each calendar quarter equal to the greater of six percent (6%) or two percent (2%) per annum above the minimum prime lending rate charged by large U.S. money center commercial banks as published by the Wall Street Journal.

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:

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Aqua Metals, Inc. and Subsidiaries (collectively the “Company”) as of December 31, 2017 and 2016, the related consolidated statements of operations, stockholders’ equity, and cash flows, for each of the three years in the period ended December 31, 2017, and the related notes (collectively referred to as the “financial statements”). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company *as of* December 31, 2017 and 2016, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2017, in conformity with U.S. generally accepted accounting principles.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on the Company’s consolidated financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (“PCAOB”) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting 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.

Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

We have served as the Company’s auditor since 2015.

/s/ Armanino LLP
San Ramon, CA
March 15, 2018

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

ASSETS

	December 31, 2017	December 31, 2016
Current assets		
Cash and cash equivalents	\$ 22,793	\$ 25,458
Restricted cash	—	1,124
Accounts receivable	882	—
Inventory	1,239	59
Prepaid expenses and other current assets	770	729
Total current assets	25,684	27,370
Non-current assets		
Property and equipment, net	45,733	41,392
Intellectual property, net	1,461	1,137
Other assets	1,564	1,630
Total non-current assets	48,758	44,159
Total assets	\$ 74,442	\$ 71,529

LIABILITIES AND STOCKHOLDERS' EQUITY

Current liabilities		
Accounts payable	\$ 1,436	\$ 1,572
Accrued expenses	1,801	1,975
Deferred rent, current portion	192	177
Notes payable, current portion	405	307
Total current liabilities	3,834	4,031
Deferred rent, non-current portion	771	963
Asset retirement obligation	701	—
Notes payable, non-current portion	8,839	9,238
Convertible note payable, non-current portion	1,332	307
Total liabilities	15,477	14,539
Commitments and contingencies		
Stockholders' equity		
Common stock; \$0.001 par value; 50,000,000 shares authorized; 27,554,076 and 17,878,725 shares issued and outstanding as of December 31, 2017 and December 31, 2016, respectively	27	18
Additional paid-in capital	113,780	85,234
Accumulated deficit	(54,842)	(28,262)
Total stockholders' equity	58,965	56,990
Total liabilities and stockholders' equity	\$ 74,442	\$ 71,529

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)

	Year ended December 31,		
	2017	2016	2015
Product sales	\$ 2,088	\$ —	\$ —
Operating cost and expense			
Cost of product sales	9,541	—	—
Research and development cost	8,103	6,348	2,280
General and administrative expense	6,891	6,610	3,171
Impairment charge	2,411	—	—
Total operating expense	<u>26,946</u>	<u>12,958</u>	<u>5,451</u>
Loss from operations	<u>(24,858)</u>	<u>(12,958)</u>	<u>(5,451)</u>
Other income and expense			
Increase in fair value of derivative liabilities	—	—	(5,776)
Interest expense	(1,761)	(639)	(1,128)
Interest and other income	<u>41</u>	<u>41</u>	<u>26</u>
Total other income (expense), net	<u>(1,720)</u>	<u>(598)</u>	<u>(6,878)</u>
Loss before income tax expense	<u>(26,578)</u>	<u>(13,556)</u>	<u>(12,329)</u>
Income tax expense	<u>(2)</u>	<u>(1)</u>	<u>(3)</u>
Net loss	<u>\$ (26,580)</u>	<u>\$ (13,557)</u>	<u>\$ (12,332)</u>
Weighted average shares outstanding, basic and diluted	<u>20,293,100</u>	<u>15,267,233</u>	<u>8,404,311</u>
Basic and diluted net loss per share	<u>\$ (1.31)</u>	<u>\$ (0.89)</u>	<u>\$ (1.47)</u>

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 (Deficit)
	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	17,878,725	\$ 18	\$ 85,234	\$ (28,262)	\$ 56,990
Stock based compensation	—	—	1,081	—	1,081
Cashless exercise of warrants	1,173,296	1	(1)	—	—
Exercise of warrants to purchase common stock	2,500	—	15	—	15
Exercise of options to purchase common stock	284,370	—	1,071	—	1,071
Common stock issued under Officers and Directors Purchase Plan	2,404	—	8	—	8
Common stock issued for cash in February 2017 from Johnson Controls, net of \$167 transaction cost	939,005	1	10,471	—	10,472
Common stock issued for purchase of Ebonex IPR Limited	123,776	—	2,149	—	2,149
Common stock issued in December 2017 public offering, net of \$1,256 transaction cost	7,150,000	7	13,752	—	13,759
Net loss	—	—	—	(26,580)	(26,580)
Balances, December 31, 2017	<u>27,554,076</u>	<u>\$ 27</u>	<u>\$ 113,780</u>	<u>\$ (54,842)</u>	<u>\$ 58,965</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,		
	2017	2016	2015
Cash flows from operating activities:			
Net loss	\$ (26,580)	\$ (13,557)	\$ (12,332)
Reconciliation of net loss to net cash used in operating activities			
Depreciation	2,908	687	89
Amortization of intellectual property	163	128	110
Accretion of asset retirement obligation	31	—	—
Fair value of warrants issued for consulting services	—	138	65
Fair value of common stock issued for consulting services	—	—	98
Stock based compensation	1,081	1,060	301
Increase in fair value of derivative liabilities	—	—	5,776
Amortization of debt discount	360	54	909
Amortization of deferred financing costs	83	62	5
Non-cash convertible note interest expense	618	343	214
Impairment of acquired intellectual property	2,411	—	—
Loss on sale of equipment	76	—	—
Inventory write down	456	—	—
Changes in operating assets and liabilities			
Accounts receivable	(882)	—	—
Inventory	(1,636)	(59)	—
Prepaid expenses and other current assets	236	(394)	(95)
Accounts payable	926	(176)	3,152
Accrued expenses	924	564	68
Deferred rent	(177)	29	164
Net cash used in operating activities	<u>(19,002)</u>	<u>(11,121)</u>	<u>(1,476)</u>
Cash flows from investing activities:			
Decrease (increase) in restricted cash	1,124	7,899	(11,667)
Purchases of property and equipment	(8,819)	(26,512)	(11,637)
Proceeds from sale of equipment	4	—	—
Other assets	(345)	(250)	(1,594)
Intellectual property related expenditures	(615)	(200)	(146)
Net cash used in investing activities	<u>(8,651)</u>	<u>(19,063)</u>	<u>(25,044)</u>
Cash flows from financing activities:			
Proceeds from issuance of common stock, net of transaction costs	25,325	30,709	32,862
Proceeds from issuance of notes payable, net of issuance costs	—	—	9,262
Payments on notes payable	(201)	(14)	—
Payments on capital leases	(136)	(52)	—
Proceeds from issuance of convertible notes payable, net of issuance costs	—	4,858	—
Net cash provided by financing activities	<u>24,988</u>	<u>35,501</u>	<u>42,124</u>
Net (decrease) increase in cash and cash equivalents	(2,665)	5,317	15,604
Cash and cash equivalents at beginning of period	<u>25,458</u>	<u>20,141</u>	<u>4,537</u>
Cash and cash equivalents at end of period	<u>\$ 22,793</u>	<u>\$ 25,458</u>	<u>\$ 20,141</u>

(Continued)

	Year ended December 31,		
	2017	2016	2015
<u>Supplemental disclosure of cash flow information:</u>			
Cash paid for interest, net of amounts capitalized	\$ 699	\$ 330	\$ 103
Cash paid for income taxes	\$ 2	\$ 1	\$ 2
<u>Non-cash investing activities</u>			
Tenant improvement allowances	\$ —	\$ 78	\$ 869
<u>Non-cash financing activities</u>			
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>\$ —</u>	<u>\$ 677</u>	<u>\$ 13,603</u>
<u>Supplemental disclosure of non-cash transactions</u>			
Change in property and equipment resulting from change in accounts payable	\$ (1,062)	\$ 1,200	\$ —
Change in property and equipment resulting from change in accrued expenses	\$ (1,098)	\$ 1,330	\$ —
Decrease in restricted cash resulting from a decrease in accounts payable	\$ —	\$ 2,644	\$ —
Recognition of convertible debt discount	\$ —	\$ 4,975	\$ —
Asset retirement obligation offset with asset retirement cost (property and equipment)	\$ 670	\$ —	\$ —
Fair value of common stock issued for intellectual property	\$ 2,149	\$ —	\$ —

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 demand. The Company intends to manufacture the equipment it has developed and pursue the development of lead acid battery recycling facilities, both directly and through licensing or joint development arrangements. The Company commenced the shipment of products for sale, consisting of lead compounds and plastics in April 2017 and to the date of this report all revenue has been derived from the sale of lead compounds and plastics.

Liquidity and Management Plans

The Company completed the development of our first LAB recycling facility at the Tahoe Reno Industrial Center (“TRIC”) and commenced production during the first quarter of 2017. The TRIC facility will produce recycled lead, consisting of lead compounds, ingoted hard lead and ingoted AquaRefined lead as well as plastic.

The Company generated revenues of \$2.1 million during 2017 and had net losses of \$26.6 million, \$13.6 million and \$12.3 million for the years ended December 31, 2017, 2016 and 2015, respectively. As of December 31, 2017, the Company’s cash balance was \$22.8 million. The Company believes that its working capital is sufficient to fund the commissioning and commencement of commercial operations of 16 AquaRefining modules and its commercial operations at TRIC through, at least, December 2018, assuming the successful commercial rollouts of the 16 AquaRefining modules.

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”).

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 fair value of estimated asset retirement obligations, the determination of stock option expense and the determination of the fair value of stock warrants issued. Actual results could differ from those estimates.

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 was 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, Nevada. As of December 31, 2017, the building was complete and the funds had been dispersed.

Accounts receivable

The Company sells its products to large well-established companies and extends credit without requiring collateral, based on an ongoing evaluation of the customer's business prospects and financial condition. In the event that payment of a customer's account receivable is doubtful, the Company would reserve the receivable under an allowance for doubtful accounts. As of December 31, 2017, the Company believes that all receivables will be collected and, therefore, has not created any reserve for doubtful accounts.

Inventory

Inventory is stated as the lower of cost or net realizable value. Cost is recorded on a first-in, first-out basis using the weighted average method. Net realizable value is determined as the estimated selling price in the ordinary course of business, less reasonably predictable costs of completion, disposal, and transportation. The Company records a write-down, if necessary, to reduce the carrying value of inventory to its net realizable value. The effect of these write-downs is to establish a new cost basis in the related inventory, which is not subsequently written up.

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

Intangible assets consist of a patent application contributed to the Company by five founding stockholders, patent applications for technology developed by the Company, trademark applications and a patent portfolio acquired during 2017. The useful life of the intangible assets has been determined to be ten years and the assets are being amortized straight-line over this period. 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. As further described in Note 6, the Company recorded an impairment of \$2.4 million on the acquisition of the 2017 acquired patent portfolio. The Company determined that the estimated life of the intellectual property properly reflected the current remaining economic life of the asset.

Asset retirement obligations

The Company records the fair value of estimated asset retirement obligations associated with tangible long-lived assets in the period incurred. Retirement obligations associated with long-lived assets are those for which there is an obligation for closures and/or site remediation at the end of the assets' useful lives. These obligations are initially estimated based on discounted cash flow estimates and are accreted to full value over time through charges to operating expense. In addition, asset retirement costs are capitalized as part of the related asset's carrying value and are depreciated on a straight-line basis over the assets' respective useful lives.

Revenue Recognition

The Company records revenue recognition in accordance with ASC 606, *Revenue from Contracts with Customers*. ASC 606 provides a single comprehensive model for the recognition of revenue arising from contracts with customers and supersedes most current revenue recognition guidance, including industry-specific guidance. It requires an entity to recognize revenue when the entity transfers promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. ASC 606 creates a five-step model that requires entities to exercise judgment when considering the terms of contract(s), which includes (1) identifying the contract(s) with the customer, (2) identifying the separate performance obligations in the contract, (3) determining the transaction price, (4) allocating the transaction price to the separate performance obligations, and (5) recognizing revenue as each performance obligation is satisfied. ASC 606 requires additional disclosure about the nature, amount, timing and uncertainty of revenue and cash flows arising from customer contracts, including qualitative and quantitative information about contracts with customers, significant judgments and changes in judgments and assets recognized from costs incurred to obtain or fulfill a contract.

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, accounts receivable, 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, 2017 or 2016.

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.

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 and 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.

Excluded potentially dilutive securities (1):	Year Ended December 31,		
	2017	2016	2015
Convertible note - principal	702,247	702,247	—
Consulting warrants to purchase common stock	—	486,364	478,864
Options to purchase common stock	578,813	915,572	752,324
Unvested restricted stock	180,951	—	—
Financing warrants to purchase common stock	2,340,828	3,316,208	975,380
Total potential dilutive securities	<u>3,802,839</u>	<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.

Concentration of Credit Risk

Substantially all of our revenue and accounts receivable as of and for the year ended December 31, 2017 is attributable to Johnson Controls Battery Group, Inc. Substantially all of the chemicals used in our refining process are provided by one supplier and supply of used lead acid batteries has, during 2017, been provided by two vendors supplying 56% and 44%, respectively.

Recent accounting pronouncements

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 November 2016, the FASB issued ASU No. 2016-18, Restricted Cash, or ASU 2016-18. The amendments in ASU 2016-18 require an entity to reconcile and explain the period-over-period change in total cash, cash equivalents and restricted cash within its statements of cash flows. ASU 2016-18 is effective for fiscal years, and interim periods within, beginning after December 15, 2017. Early adoption is permitted. A reporting entity must apply the amendments in ASU 2016-18 using a full retrospective approach. The Company is currently evaluating the impact the adoption of the ASU will have on its consolidated financial statements.

There were no other recent accounting pronouncements or changes in accounting pronouncements during the year ended December 31, 2017 that are of significance or potential significance to the Company.

3. Revenue recognition

Revenues are recognized when control of the promised goods or services is transferred to customers, in an amount that reflects the consideration the Company expects to be entitled to in exchange for those goods or services. Generally, this occurs with the delivery of the Company's products, primarily hard lead, lead compounds and plastics, to customers. Sales, value add, and other taxes, if any, that are collected concurrent with revenue-producing activities are excluded from revenue as they are subsequently remitted to governmental authorities. Incidental items that are immaterial in the context of the contract are recognized as expense. Freight and shipping costs related to the transfer of the Company's products to customers are included in revenue and cost of product sales. Payment on invoices is generally due within 30 days of the invoice.

The Company generates revenues by recycling lead acid batteries ("LABs") and selling the recovered lead to its customers. Primary components of the recycling process include sales of recycled lead consisting of lead compounds, ingoted hard lead and ingoted AquaRefined lead as well as plastics. The Company commenced the shipment of products for sale, consisting of lead compounds and plastics in April 2017 and to the date of this report all revenue has been derived from the sale of lead compounds and plastics.

Arrangements with Multiple Performance Obligations

Contracts with customers may include multiple performance obligations. A performance obligation is a promise in a contract to transfer a distinct good or service to the customer and is the unit of account in ASC 606. A contract's transaction price is allocated to each distinct performance obligation and recognized as revenue when, or as, the performance obligation is satisfied. The Company expects that many of our contracts will have a single performance obligation as the promise to transfer the individual goods or services will not be separately identifiable from other promises in the contracts and therefore, not distinct. For contracts with multiple performance obligations, revenue will be allocated to each performance obligation based on the Company's best estimate of the standalone selling price of each distinct good or service in the contract. The primary method used to estimate standalone selling prices is based on prices charged separately to customers or expected cost-plus margin.

Revenue from products transferred to customers at a single point in time, as noted above with the delivery of the Company's products to customers, accounted for 100% of our revenue during the year ended December 31, 2017.

Significant Judgments

The Company estimates variable consideration for arrangements where the transaction price is not fully determinable until the completion of yield testing. The Company estimates variable consideration at the most likely amount to which it expects to be entitled and includes estimated amounts in revenue to the extent it is probable that a significant reversal of revenue recognized will not occur when the uncertainty associated with the variable consideration is resolved. Adjustments to revenue is recognized in the period when the uncertainty is resolved. To date, any adjustments to estimates have not been material.

Practical Expedients and Exemptions

The Company does not disclose the value of unsatisfied performance obligations for (i) contracts with an original expected length of one year or less and (ii) contracts for which we recognize revenue at the amount to which we have the right to invoice for services performed.

4. Inventory, net

Inventory consisted of the following for the dates indicated (in thousands):

	December 31,	
	2017	2016
Finished goods	\$ 512	\$ —
Work in process	182	—
Raw materials	545	59
	<u>\$ 1,239</u>	<u>\$ 59</u>

5. 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,	
		2017	2016
Operational equipment	3-10	\$ 15,457	\$ 15,132
Lab equipment	5	685	547
Computer equipment	3	174	140
Office furniture and equipment	3	326	298
Leasehold improvements	5-7	1,408	1,408
Land	—	1,047	1,047
Building	39	24,847	21,962
Asset Retirement Cost	20	670	—
Equipment under construction		4,552	1,635
		49,166	42,169
Less: accumulated depreciation		(3,433)	(777)
		<u>\$ 45,733</u>	<u>\$ 41,392</u>

Depreciation expense was \$2.9 million, \$0.7 million and \$0.1 million for the years ended December 31, 2017, 2016 and 2015, respectively. The Building is a 136,750 square foot lead acid battery recycling plant being built in McCarran, Nevada. Equipment under construction at December 31, 2017 is primarily AquaRefining modules manufactured by the Company to be used in the McCarran, Nevada 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 \$0.5 million and \$0.1 million 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, 2017 subject to capital leases is \$0.4 million less accumulated depreciation of \$0.1 million resulting in net fixed assets under capital lease of \$0.3 million. Total lab equipment included in the above table at December 31, 2016 subject to capital leases was \$0.4 million less accumulated depreciation of \$36,000 resulted in net fixed assets under capital lease of \$0.4 million. These assets are depreciated using the same useful lives as noted above and included in depreciation expense. See Note 12 – Notes Payable for minimum future payments related to these equipment leases.

6. Intellectual Property

On April 13, 2017, the Company entered into an agreement to purchase all the capital shares of Ebonex IPR Limited, a company registered in England and Wales. Ebonex IPR Limited is a pre-revenue IP-based company that has developed patented technology in the field of advanced materials and manufacturing methods for advanced lead acid batteries. Total consideration was \$2.5 million, consisting of cash, transaction costs and 123,776 shares of the Company's common stock, which at the time had a closing market price of \$17.36 per share. In accordance with ASC Topic 805-50, "Business Combinations – Related Issues", the Company accounted for the transaction as an asset acquisition and allocated the consideration to the relative fair value of the assets acquired. The Company determined that the transaction was an asset acquisition rather than a business combination following the guidance in the above-mentioned standard. In order to be treated as a business combination, the acquired assets and assumed liabilities must constitute a business. A business requires a set of inputs and processes applied to those inputs that have the ability to contribute to the creation of outputs. Ebonex IPR Limited has no processes such as strategic management processes, operational processes, or employees. Further, Ebonex IPR Limited provides no goods or services to customers, nor has it any investment or other revenues. Therefore, the Company concluded that the acquired assets and assumed liabilities do not constitute a business and are instead treated as an asset acquisition. Assets acquired consisted of a patent portfolio. The fair value of the patent portfolio, of \$112,000, was determined by management with the assistance of an independent valuation specialist using an income approach. Included in the purchase were certain fixed assets that have been determined by management to have no immediate value and were not considered in the valuation of Ebonex IPR.

The Company initially recorded the transaction as an increase of \$2.5 million to intellectual property, net on the balance sheet. Subsequently, due to the fair value of the patent portfolio being significantly less than total consideration, the early development stage of the technology acquired and the uncertainties inherent in research and development, the Company recorded a non-cash impairment charge of \$2.4 million during the three-month period ended June 30, 2017.

The remaining \$0.1 million is being amortized straight-line over a 10-year period.

The increase of \$0.5 million (excluding the Ebonex transaction detailed above), \$0.2 million and \$0.1 million in 2017, 2016 and 2015, respectively, 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):

	2017	2016
Intellectual property	\$ 1,906	\$ 1,419
Accumulated amortization	(445)	(282)
Intellectual property, net	<u>\$ 1,461</u>	<u>\$ 1,137</u>

Aggregate amortization expense for the year ended December 31, 2017, 2016 and 2015 was \$0.2 million, \$0.1 million and \$0.1 million, respectively.

Estimated future amortization is as follows as of December 31, 2017 (in thousands):

2018	191
2019	191
2020	191
2021	191
2022	191
Thereafter	506
Total estimated future amortization	<u>\$ 1,461</u>

7. Other Assets

Other assets consist of the following (in thousands).

	December 31,	
	2017	2016
Alameda security deposit (1)	\$ 321	\$ 597
CD for Green Bank collateral security (2)	1,019	1,012
Nevada sales and use tax deposit	49	49
Facility Closure Trust deposit (3)	450	100
Various other assets	—	147
	<u>1,839</u>	<u>1,905</u>
Less: current portion (1)	<u>(275)</u>	<u>(275)</u>
Other assets, non-current	<u>\$ 1,564</u>	<u>\$ 1,630</u>

- (1) The lease deposit related to the Alameda headquarters is being released over time: \$275,000 was released in June 2017 and \$275,000 will be released in June 2018; 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 Green Bank 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 deposited upon establishment of the Trust Fund, on October 31, 2016; \$350,000 was deposited on October 31, 2017; and \$220,000 will be due on October 31, 2018.

8. Accrued liabilities

Accrued liabilities consist of the following (in thousands).

	December 31,	
	2017	2016
Fixed asset related	\$ 232	\$ 1,330
Payroll related	470	359
Use tax accrual	75	156
Professional services	88	29
Estimated Interstate Battery settlement	600	—
Other	336	101
	<u>\$ 1,801</u>	<u>\$ 1,975</u>

9. Asset Retirement Obligation

ASC Topic 410-20, "Asset Retirement and Environmental Obligations, Asset Retirement Obligations" requires the recording of a liability in the period in which an asset retirement obligation (ARO) is incurred, in an amount equal to the discounted estimated fair value of the obligation that is capitalized. In each subsequent fiscal quarter, this liability is accreted up to the final retirement cost. The determination of the ARO is based on an estimate of the future cost to remove and decontaminate the Company's facility at TRIC upon closure. The estimated fair value of the closure costs is based on vendor quotes to remove and decontaminate the McCarran facility in accordance with the Company's closure plan as filed with the State of Nevada in its "Application for the Recycling of Hazardous Waste, by Written Determination" in 2016. The actual costs could be higher or lower than current estimates. The discounted estimated fair value of the closure costs is \$670,000 and the obligation was recorded as of March 31, 2017, when the obligation was deemed to have occurred. Offsetting this ARO is, as noted in Note 5 above, an asset retirement cost of the same amount that was capitalized. Accretion of the ARO for the year ended December 31, 2017 was \$31,000.

The Company has entered into a facility closure trust agreement for the benefit of the Nevada Division of Environmental Protection (NDEP), an agency of the Nevada Division of Conservation and Natural Resources. Funds deposited in the trust are to be available, when and if needed, for potential decontamination and hazardous material cleanup in connection with the closure and/or post-closure care of the facility. The trustee will reimburse the Company or other persons as specified by the NDEP from the fund for closure and post-closure expenditures in such amounts as the NDEP shall direct in writing. Through December 31, 2017, \$450,000 has been contributed to the trust fund; \$220,000 will be due on October 31, 2018.

10. Convertible Notes

As described more completely under the caption “Interstate Battery Agreements” below in Note 13, 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 years ended December 31, 2017 and 2016 totaled \$ 0.6 million and \$0.3 million, respectively. Amortization of the note discount for the years ended December 31, 2017 and 2016 totaled \$0.4 million and \$0.1 million, respectively. Amortization of the deferred financing costs, more fully described in Note 13, totaled \$48,000 and \$27,000 for the year ended December 31, 2017 and 2016, respectively.

The convertible note payable is comprised of the following (in thousands):

	December 31,	
	<u>2017</u>	<u>2016</u>
Convertible note payable	\$ 5,000	\$ 5,000
Accrued interest	961	343
Deferred financing costs, net	(67)	(115)
Note discount	<u>(4,562)</u>	<u>(4,921)</u>
Convertible note payable, non-current portion	<u>\$ 1,332</u>	<u>\$ 307</u>

As of December 31, 2017, the Interstate Battery convertible note’s “if-converted value” did not exceed its principal amount.

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.

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.

All of these warrants were exercised via cashless exercises during 2017.

11. 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. Amortization of deferred rent expense for the year ended December 31, 2017 was \$177,000. Net deferred rent expense for the years ended December 31, 2016 and 2015 was \$29,000 and \$163,000, respectively.

12. 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. AMR was in compliance with all but the minimum debt service coverage ratio covenant as of and for each of the three-month periods ended March 31, June 30, September 30 and December 31, 2017. AMR has received a waiver for the minimum debt service coverage ratio covenant for each of the three-month periods ended March 31, June 30, September 30 and December 31, 2017.

The net proceeds of the loan was deposited into an escrow account at Green Bank. The funds were released as payment for the building constructed in McCarran, Nevada 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,	
	2017	2016
Notes payable, current portion		
Thermo Fisher Financial Service	\$ 128	\$ 137
Green Bank, net of issuance costs	277	170
	<u>\$ 405</u>	<u>\$ 307</u>
Notes payable, non-current portion		
Thermo Fisher Financial Service	\$ 11	\$ 138
Green Bank, net of issuance costs	8,828	9,100
	<u>\$ 8,839</u>	<u>\$ 9,238</u>

The Thermo Fisher Financial Service obligations relate to capital leases further discussed in Note 5 – 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, \$35,000 and \$9,000 for the years ended December 31, 2017, 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, 2017 (in thousands):

2018	405
2019	305
2020	313
2021	335
2022	357
Thereafter	8,206
Total loan payments	<u>\$ 9,921</u>

13. Stockholders' Equity

Authorized capital

The authorized capital stock of the Company consists of 50,000,000 shares of common stock, par value \$0.001 per share. In the event of liquidation of the company, dissolution or winding up, the holders of common stock are entitled to share ratably in all assets remaining after payment of liabilities. The common stock has no preemptive or conversion rights or other subscription rights. There are no redemption or sinking fund provisions applicable to the common stock. The outstanding shares of common stock are fully paid and non-assessable.

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. As of the date of this report, Interstate Battery has raised a claim that the Company is in technical breach of a negative covenant under loan. The claimed breach relates to the Company's failure to obtain Interstate Battery's prior written consent to the Company's acquisition of Ebonex IPR, Ltd. In the event the Company is unable to resolve this matter, Interstate Battery may declare a default under the loan and attempt to accelerate the payment of all amounts thereunder. There can be no assurance the Company will be able to resolve this matter or that Interstate Battery will not declare a default under the loan and attempt to accelerate the payment of all amounts thereunder. The Company estimates that resolving the claim will result in a charge of \$0.6 million. The Company has recorded the \$0.6 million in general and administrative expenses as of December 31, 2017 with the offset in accrued liabilities.

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 approximately 11.4% 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 the Company's 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).

	<u>Fair value</u>	<u>Allocated value</u>
<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.

2016 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.

Johnson Controls 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 a wholly-owned subsidiary 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. Costs incurred in connection with the transaction, primarily legal fees, totaled approximately \$167,000. The Stock Purchase Agreement includes customary representations, warranties, and covenants by Johnson Controls and the Company, 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 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.

There were no sales commissions paid by the Company in connection with the sale of its common shares to Johnson Controls.

2017 Public Offering

On December 12, 2017, the Company completed a public offering of 7,150,000 shares of its common stock at a public offering price of \$2.10 per share. Net proceeds to the Company from the public offering were approximately \$13.8 million after deducting underwriting discounts, commissions and offering expenses. In January 2018, the underwriter exercised their overallotment option resulting in an additional 1,072,500 shares being issued and net proceeds of approximately \$2.1 million.

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. All of these warrants were exercised during 2017.

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 an increase to additional paid in capital. All of these warrants were exercised during 2017.

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. All of these warrants were exercised during 2017.

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. All of these warrants were exercised during 2016.

Provided below are the principal assumptions used in the measurement of the fair values of the warrants issued during 2014 and 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	\$ 6.00	\$ 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. All of these warrants were exercised during 2017.

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

During the year ended December 31, 2017, 1,175,796 shares were issued pursuant to cash and 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.

Date of Warrant Exercise	Average Closing Market Price Per Share	Exercise Price Per Share	Warrant Shares Exercised	Common Shares Issued
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
3/17/2017	\$ 20.262	\$ 6.00	2,500	2,500
3/20/2017	\$ 20.304	\$ 3.00	226,068	192,666
3/20/2017	\$ 20.304	\$ 6.00	586,596	413,253
4/3/2017	\$ 19.148	\$ 0.0034375	43,636	43,628
4/11/2017	\$ 17.920	\$ 6.00	12,500	8,315
			1,461,744	1,175,796

Warrants outstanding

Warrants to purchase shares of the Company's common stock at a weighted average exercise price of \$8.45 per share are as follows.

Exercise Price per Share	Expiration Date	Shares Subject to purchase at September 30, 2017
\$ 7.12	5/18/2018	702,247
\$ 9.00	5/18/2019	1,605,131
\$ 10.00	11/21/2019	33,450
		2,340,828

Stock based compensation

In 2014, the Board of Directors adopted the Company's stock incentive plan (the "2014 Plan"). The 2014 Plan was most recently amended and restated effective as of the Company's 2017 Annual Stockholders' Meeting. A total of 2,113,637 shares of common stock was authorized for issuance pursuant to the 2014 Plan at the time of its most recent amendment and restatement in 2017. 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,		
	2017	2016	2015
Cost of product sales	\$ 143	\$ —	\$ —
Research and development cost	456	256	119
General and administrative expense	482	804	182
Total	<u>\$ 1,081</u>	<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, 2017, 2016 and 2015.

	Year ended December 31,		
	2017	2016	2015
Expected stock volatility	70.5% - 73.2%	71%-80%	80%
Risk free interest rate	1.38% - 2.03%	0.92%-1.77%	1.32%-1.75%
Expected years until exercise	2.5-3.5	2.5-4.0	3.4-3.5
Dividend yield	0%	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. Forfeitures are recognized as they occur.

The following table summarizes the 2014 Plan activity and related information through December 31, 2017.

	Options Outstanding			RSU's outstanding	
	Number of Shares Available for Grant	Number of Shares	Weighted-Average Exercise Price Per Share (\$)	Number of RSU's	Weighted-Average Grant Date Fair Value Per Share (\$)
Balance at December 31, 2015	611,313	752,324	\$ 3.95	—	\$ —
Granted	(229,497)	229,497	8.56	—	—
Exercised	—	(4,500)	4.18	—	—
Forfeited	61,749	(61,749)	6.14	—	—
Balance at December 31, 2016	443,565	915,572	4.96	—	—
Authorized	750,000				
Granted	(330,884)	134,933	11.19	195,951	7.28
Exercised	—	(284,370)	3.77	—	—
Forfeited	202,322	(187,322)	6.44	(15,000)	5.78
Balance at December 31, 2017	<u>1,065,003</u>	<u>578,813</u>	<u>\$ 6.51</u>	<u>180,951</u>	<u>\$ 7.40</u>

The weighted-average grant-date fair value of options granted during the year ended December 31, 2017, 2016 and 2015 was \$5.55, \$4.47 and \$2.20 per share, respectively. The intrinsic value of options exercised during the year ended December 31, 2017 and 2016 was \$1.5 million and \$22,000, respectively. 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, 2017 was \$1.1 million.

Additional information related to the status of options at December 31, 2017 is as follows:

	Shares	Weighted-Average Exercise Price Per Share	Weighted-Average Remaining Contractual Life (Years)	Aggregate Intrinsic Value (in thousands)
Outstanding	578,813	\$ 6.51	3.27	\$ —
Vested and exercisable	376,039	\$ 5.58	3.00	\$ —

The intrinsic value of options is the fair value of the Company's stock at December 31, 2017 less the per share exercise price of the option multiplied by the number of shares.

As of December 31, 2017, there is approximately \$0.7 million of total unrecognized compensation cost related to the unvested share-based (option) compensation arrangements granted under the 2014 Plan. The remaining unrecognized compensation cost will be recognized over a weighted-average period of 1.9 years.

The following table summarizes information about stock options outstanding as of December 31, 2017:

Range of Exercise Prices	Options Outstanding		Options Exercisable	
	Quantity	Weighted-Average Remaining Contractual Life (Years)	Quantity	Weighted-Average Remaining Contractual Life (Years)
\$2.03 - \$3.57	211,045	2.78	178,091	2.77
\$3.58 - \$5.24	92,796	3.00	83,752	2.90
\$5.25 - \$8.04	94,370	3.54	36,552	2.83
\$8.05 - \$9.41	93,241	3.59	48,330	3.46
\$9.42 - \$19.20	87,361	4.14	29,314	4.10
	<u>578,813</u>	<u>3.28</u>	<u>376,039</u>	<u>3.00</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.

Restricted Stock Units

In July 2017, the Company granted 49,751 restricted stock units (RSUs) with a grant date fair value per share of \$11.68 to its then Chief Financial Officer, Mr. Weinswig, as part of his employment agreement. 16,584 RSUs will vest on each July 31, 2018 and July 31, 2019 and the remaining 16,583 RSUs will vest on July 31, 2020. In October 2017, the Company granted 146,200 restricted stock units with a grant date fair value per share of \$5.78 to certain non-executive employees. These restricted stock units were granted with 50% vesting on January 15, 2018 and the remaining 50% vesting on January 15, 2019. As of December 31, 2017, no restricted stock units had vested.

As of December 31, 2017, there is approximately \$0.9 million of total unrecognized compensation cost related to the unvested share-based (RSU) compensation arrangements granted under the 2014 Plan. The remaining unrecognized compensation cost will be recognized over a weighted-average period of 1.9 years.

Reserved shares

At December 31, 2017, the Company has reserved shares of common stock for future issuance as follows:

	<u>Number of Shares</u>
Equity Plan	
Subject to outstanding options and restricted shares	759,764
Available for future grants	1,065,003
Convertible note-principal	702,247
Officer and Director Purchase Plan	247,596
Warrants	2,340,828
December 2017 public financing overallotment	1,072,500
	<u>6,187,938</u>

14. Commitments and Contingencies

Lease commitments

As discussed in Note 11, 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, 2017 (in thousands):

2018	504
2019	506
2020	522
2021	538
2022	227
Total minimum lease payments	<u>\$ 2,297</u>

During the years ended December 31, 2017, 2016 and 2015, the Company has incurred total rent expense of \$0.5 million, \$0.3 million and \$0.2 million, respectively.

See Note 12 for lease commitments associated with capital leases for fixed assets.

Interstate Battery Agreement commitment

Pursuant to the Interstate Battery Investor Rights Agreement, the Company has agreed to compensate Interstate Battery should either Stephen Clarke, the Company's current chief executive officer, or Selwyn Mould, the Company's current chief operating officer, no longer hold such positions or no longer devote substantially all of their business time and attention to the Company, whether as a result of resignation, death, disability or otherwise (such an event referred to as a "key-man event"). The Company has agreed to pay Interstate Battery \$2.0 million, per occurrence, if either officer is subject to a key-man event during the two years following May 18, 2016. The Company also agreed to pay Interstate Battery \$2.0 million if either or both officers are subject to a key-man event during the third year following May 18, 2016.

As of the date of this report, Interstate Battery has raised a claim that the Company is in technical breach of a negative covenant under the Interstate Battery convertible loan. The claimed breach relates to the Company's failure to obtain Interstate Battery's prior written consent to its acquisition of Ebonex IPR, Ltd. The Company is in negotiations with Interstate Battery to resolve the claim and the Company believes it will be able to resolve that matter. However, in the event the Company is unable to resolve the claim, Interstate Battery may declare a default under the loan and attempt to accelerate the payment of all amounts thereunder. There can be no assurance we will be able to resolve this matter or that Interstate Battery will not declare a default under the loan and attempt to accelerate the payment of all amounts thereunder. The Company estimates that resolving the claim of breach will result in a charge of \$0.6 million. The Company has recorded \$0.6 million in general and administrative expense for the year ended December 31, 2017 with the offset in accrued liabilities.

Johnson Controls Agreement Commitment

Pursuant to the Johnson Controls Investor Rights Agreement, the Company has agreed to compensate Johnson Controls should either Stephen Clarke, the Company's current chief executive officer, or Selwyn Mould, the Company's current chief operating officer, no longer hold such positions or no longer devote substantially all of their business time and attention to the Company, whether as a result of resignation, death, disability or otherwise (such an event referred to as a "key-man event"). The Company has agreed to pay Johnson Controls \$1.0 million per occurrence, if either officer is subject to a key-man event during the 18 months following February 7, 2017. The Company also agreed to pay Johnson Controls \$1.0 million if either or both key-man events occur after 18 months and prior to 30 months following February 7, 2017.

Legal proceedings

Beginning on December 15, 2017, three purported class action lawsuits were filed in the United States District Court for the Northern District California against the Company, Stephen R. Clarke, Thomas Murphy and Mark Weinswig: *Arlis Hampton vs. Aqua Metals, Inc. et al.*, Case No 3:17-cv-07142; *Grant Heath vs. Aqua Metals, Inc. et al.*, Case No 3:17-cv-07196-JST; *Lotfy Arbab vs. Aqua Metals, Inc. et al.*, Case No 3:17-cv-07270WHA. Each of the complaints was filed by persons claiming to be stockholders of the Company and generally allege violations of the anti-fraud provisions of the federal securities laws based on the alleged issuance of false and misleading statements of material fact, and the alleged omission to state material facts necessary to make other statements made not misleading, between May 19, 2016 and November 9, 2017 with respect to the Company's lead recycling operations. The complaints seek unspecified damages and plaintiffs' attorneys' fees and costs. As of the date of this report, multiple plaintiffs have filed motions seeking appointment as lead plaintiff. Briefing on those competing motions was completed in early March, and a hearing is set for May 17, 2018. The Company has not filed a responsive pleading in any of the above actions and does not expect to do so until a lead plaintiff has been appointed by the Court.

Beginning on February 2, 2018, two purported shareholder derivative actions were filed in the United States District Court for the District of Delaware against the Company and its current executive officers and directors, Stephen R. Clarke, Selwyn Mould, Mark Weinswig, Vincent DiVito, Mark Slade and Mark Stevenson, and one former officer and director, Thomas Murphy: *Al Lutzker, Derivatively and on Behalf of Aqua Metals, Inc. v. Stephen R. Clarke, Thomas Murphy, Mark Weinswig, Selwyn Mould, Vincent L. Divito, Mark Slade and Mark Stevenson and Aqua Metals, Inc.*, Case No. 1:99-mc-09999; and *Chau Nguyen, Derivatively and on Behalf of Aqua Metals, Inc. v. Stephen R. Clarke, Thomas Murphy, Mark Weinswig, Selwyn Mould, Vincent L. Divito, Mark Slade and Mark Stevenson and Aqua Metals, Inc.*, Case No. 1:18-cv-00327. The complaints were filed by persons claiming to be stockholders of the Company and generally alleges that certain of its officers and directors breached their fiduciary duties to us by violating the federal securities laws and exposing us to possible financial liability. The complaints seek unspecified damages and plaintiffs' attorneys' fees and costs. As of the date of this report, the Company has not filed a responsive pleading in either action.

15. Related Party Transactions

Related party transactions comprised the following for the years ended December 31, 2017, 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 \$116,000 of salary during the year ended December 31, 2017; \$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 a former 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.

16. Income Taxes

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

	Year ended December 31,		
	2017	2016	2015
US	\$ (26,578)	\$ (13,556)	\$ (12,329)
Foreign	—	—	—
Total	<u>\$ (26,578)</u>	<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,		
	2017	2016	2015
Current			
Federal	\$ —	\$ —	\$ —
State	2	1	3
Deferred			
Federal	—	—	—
State	—	—	—
Total provision for income taxes	<u>\$ 2</u>	<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,		
	2017	2016	2015
Tax at federal statutory rate	34.00%	34.00%	34.00%
State tax, net of federal benefit	0.00%	-0.01%	5.83%
Change in derivative liability	0.00%	0.00%	-18.66%
Change in rate	-22.13%	-1.30%	0%
Valuation allowance	-15.78%	-30.70%	-20.53%
Impairment charge of acquired IP	6.86%	0.00%	0.00%
Excess benefits from equity compensation	-3.08%	0.00%	0.00%
Other	0.14%	-2.00%	-0.65%
Provision for taxes	<u>0.01%</u>	<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):

	As of December 31,	
	2017	2016
Deferred tax assets		
Capitalized start-up costs	\$ 4,312	\$ 4,640
Credits	484	127
Net operating losses	5,350	1,730
Warrants	—	299
Others	818	666
Total gross deferred tax assets	<u>10,964</u>	<u>7,462</u>
Valuation allowance	<u>(10,370)</u>	<u>(6,175)</u>
Total gross deferred tax assets (net of valuation allowance)	<u>\$ 594</u>	<u>\$ 1,287</u>
Deferred tax liabilities		
Patents	(239)	(350)
Fixed assets	—	(325)
Beneficial conversion feature - debt discount	<u>(355)</u>	<u>(612)</u>
Total gross deferred tax liabilities	<u>(594)</u>	<u>(1,287)</u>
Net deferred tax assets	<u>\$ —</u>	<u>\$ —</u>

The Company's effective tax rate for the period ended December 31, 2017 was lower than the statutory tax rate primarily because of the valuation allowance on its US deferred tax assets taxed at lower rates, partially offset by state taxes and tax credits. The income tax expense for the year ended December 31, 2017, 2016 and 2015 relate to state minimum income tax.

On December 22, 2017, President Trump signed the Tax Cuts and Jobs Act (the "Act") into law. The new legislation decreases the U.S. corporate federal income tax rate from 35% to 21% effective January 1, 2018. There was no impact on recorded deferred tax balances as the remeasurement of net deferred tax assets was offset by a change in valuation allowance. The Act also includes a number of other provisions including the elimination of loss carrybacks and limitations on the use of future losses, repeal of the Alternative Minimum Tax regime, and the introduction of a base erosion and anti-abuse tax. These provisions are not expected to have immediate effects on the Company.

Based on the available objective evidence at this time, management believes that it is more likely than not that the net 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, 2017 and December 31, 2016. The net valuation allowance increased by approximately \$4.2 million during the year ended December 31, 2017. The increase in net valuation allowance primarily relates to net operating losses generated during 2017 partially offset by a decrease related to the lower U.S. corporate federal income tax rate effective January 1, 2018.

The Company has Federal and California net operating loss carry-forwards of approximately \$24.6 million and \$2.7 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, 2017, the Company had research and development credits carryforward of approximately \$0.3 million and \$0.5 million 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, 2017, the Company's total amount of unrecognized tax benefit was approximately \$0.2 million, 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.

Prior to January 1, 2017, the Company recognized the excess tax benefits of stock-based compensation expense as additional paid-in capital ("APIC"), and tax deficiencies of stock-based compensation expense in the income tax provision or as APIC to the extent that there were sufficient recognized excess tax benefits previously recognized. As a result of the prior requirement that excess tax benefits reduce taxes payable prior to be recognized as an increase in paid in capital, the Company had not recognized certain deferred tax assets (all tax attributes such as loss or credit carryforwards) that could be attributed to tax deductions related to equity compensation in excess of compensation recognized for financial reporting.

Effective as of January 1, 2017, the Company adopted a change in accounting policy in accordance with ASU 2016-09 to account for excess tax benefits and tax deficiencies as income tax expense or benefit, and to recognize previously unrecognized deferred tax assets that arose directly from (or the use of which was postponed by) tax deductions related to equity compensation in excess of compensation recognized for financial reporting. The change was applied on a modified retrospective basis; no prior periods were restated as a result of this change in accounting policy.

ASU 2016-09 also eliminates the requirement that excess tax benefits be realized as a reduction in current taxes payable before the associated tax benefit can be recognized as an increase in paid in capital. Approximately \$0.2 million of capitalized start-up costs (none of which were included in the deferred tax assets recognized in the statement of financial position as of December 31, 2016) have been attributed to tax deduction for stock-based compensation in excess of the related book expense. Under ASU 2016-09, these previously unrecognized deferred tax assets were recognized on a modified retrospective basis as of January 1, 2017, the start of the year in which the Company adopted ASU 2016-09. The capitalized start-up costs recognized as of January 1, 2017, as described above, have been offset by a valuation allowance. As a result, there was no tax-related cumulative-effect to retained earnings for US tax purpose.

The Company made the election to early adopt ASU 2015-17 at December 31, 2016 to classify all deferred tax assets and liabilities, along with any related valuation allowance, as noncurrent on the balance sheet.

17. 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.

18. 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, 2017. 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 2017
	March 31, 2017	June 30, 2017	September 30, 2017	December 31, 2017	
Revenue - sales	\$ —	\$ 603	\$ 589	\$ 896	\$ 2,088
Operating expenses					
Cost of product sales	—	2,531	3,140	3,870	9,541
Operations and development costs	2,987	2,184	1,367	1,565	8,103
General and administrative expense	1,528	1,444	1,925	1,994	6,891
Impairment charge	—	2,411	—	—	2,411
Total operating expenses	4,515	8,570	6,432	7,429	26,946
Loss from operations	(4,515)	(7,967)	(5,843)	(6,533)	(24,858)
Other income and expense					
Interest expense	(388)	(408)	(454)	(511)	(1,761)
Interest and other income	11	10	7	13	41
Total other income (expense), net	(377)	(398)	(447)	(498)	(1,720)
Loss before income tax expense	(4,892)	(8,365)	(6,290)	(7,031)	(26,578)
Income tax expense	(2)	—	—	—	(2)
Net loss	(4,894)	(8,365)	(6,290)	(7,031)	(26,580)
Weighted average shares outstanding, basic and diluted	18,792,850	20,123,041	20,265,020	21,956,993	20,293,100
Basic and diluted net loss per share	\$ (0.26)	\$ (0.42)	\$ (0.31)	\$ (0.32)	\$ (1.31)

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

19. Subsequent Events

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

In January 2018, the underwriter of the December 2017 public offering exercised its overallotment option resulting in an additional 1,072,500 shares being issued and net proceeds of approximately \$2.1 million. See Note 13 related to the 2017 Public Offering.

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, 2017 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, 2017 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, 2017 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, 2017, and based on that evaluation, management concluded that our internal control over financial reporting was effective as of December 31, 2017.

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 2017 fiscal year pursuant to Regulation 14A for our 2018 Annual Meeting of Stockholders, or the 2018 Proxy Statement, and the information to be included in the 2018 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 2018 Proxy Statement and is hereby incorporated by reference.

Item 11. Executive Compensation

The information required by this item will be contained in the 2018 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 2018 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 2018 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 2018 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.

Number	Exhibit Description	Method of Filing
<u>1.1</u>	<u>Form of Underwriting Agreement</u>	Incorporated by reference from the Registrant's Registration Statement on Form S-1 filed on July 22, 2015.
<u>1.2</u>	<u>Form of Underwriting Agreement</u>	Incorporated by reference from the Registrant's Current Report on Form 8-K filed on November 11, 2016.
<u>1.3</u>	<u>Underwriting Agreement dated as of December 7, 2017 between the Registrant and Oppenheimer & Co. Inc. as underwriter</u>	Incorporated by reference from the Registrant's Current Report on Form 8-K filed on December 11, 2017.
<u>3.1</u>	<u>First Amended and Restated Certificate of Incorporation of the Registrant</u>	Incorporated by reference from the Registrant's Registration Statement on Form S-1 filed on June 9, 2015.
<u>3.2</u>	<u>Amended and Restated Bylaws of the Registrant</u>	Incorporated by reference from the Registrant's Registration Statement on Form S-1 filed on June 9, 2015.
<u>3.3</u>	<u>Certificate of Amendment to First Amended and Restated Certificate of Incorporation of the Registrant</u>	Incorporated by reference from the Registrant's Registration Statement on Form S-1 filed on June 25, 2015.
<u>4.1</u>	<u>Specimen Certificate representing shares of common stock of Registrant</u>	Incorporated by reference from the Registrant's Registration Statement on Form S-1 filed on July 20, 2015.
<u>4.2</u>	<u>Warrant dated September 8, 2014 issued to Liquid Patent Consulting, LLC</u>	Incorporated by reference from the Registrant's Registration Statement on Form S-1 filed on June 9, 2015.
<u>4.3</u>	<u>Form of Senior Secured Convertible Promissory Note issued by the Registrant to investors in the offering completed on October 31, 2014</u>	Incorporated by reference from the Registrant's Registration Statement on Form S-1 filed on June 9, 2015.

<u>4.4</u>	<u>Warrant dated October 31, 2014 issued to National Securities Corporation</u>	Incorporated by reference from the Registrant’s Registration Statement on Form S-1 filed on June 9, 2015.
<u>4.5</u>	<u>Form of Underwriters’ Warrant</u>	Incorporated by reference from the Registrant’s Registration Statement on Form S-1 filed on July 20, 2015.
<u>4.6</u>	<u>Convertible Term Note issued by Aqua Metals, Inc. to Interstate Emerging Investments, LLC dated May 24, 2016</u>	Incorporated by reference from the Registrant’s Quarterly Report on Form 10-Q filed on August 10, 2016
<u>4.7</u>	<u>Warrant to Purchase Common Stock issued by Aqua Metals, Inc. to Interstate Emerging Investments, LLC dated May 24, 2016 (Two Year)</u>	Incorporated by reference from the Registrant’s Quarterly Report on Form 10-Q filed on August 10, 2016
<u>4.8</u>	<u>Warrant to Purchase Common Stock issued by Aqua Metals, Inc. to Interstate Emerging Investments, LLC dated May 24, 2016 (Three Year)</u>	Incorporated by reference from the Registrant’s Quarterly Report on Form 10-Q filed on August 10, 2016
<u>4.9</u>	<u>Warrant to Purchase Common Stock issued by Aqua Metals, Inc. to National Securities Corporation dated November 21, 2016 (Three Year)</u>	Incorporated by reference from the Registrant’s Annual Report on Form 10-K filed on March 2, 2017
<u>10.1</u>	<u>Form of Indemnification Agreement entered into by the Registrant with its Officers and Directors</u>	Incorporated by reference from the Registrant’s Registration Statement on Form S-1 filed on June 9, 2015.
<u>10.2*</u>	<u>Aqua Metals, Inc. Amended and Restated 2014 Stock Incentive Plan</u>	Incorporated by reference from the Registrant’s Proxy Statement on Form DEF 14A filed on April 24, 2017.
<u>10.3</u>	<u>Real Estate Purchase and Sale Agreement dated February 23, 2015 between Tahoe-Reno Industrial Center, LLC and the Registrant</u>	Incorporated by reference from the Registrant’s Registration Statement on Form S-1 filed on June 9, 2015.
<u>10.4*</u>	<u>Executive Employment Agreement dated January 15, 2015 between Stephen R. Clarke and the Registrant</u>	Incorporated by reference from the Registrant’s Registration Statement on Form S-1 filed on June 9, 2015.
<u>10.5*</u>	<u>Executive Employment Agreement dated January 15, 2015 between Thomas Murphy and the Registrant</u>	Incorporated by reference from the Registrant’s Registration Statement on Form S-1 filed on June 9, 2015.
<u>10.6*</u>	<u>Executive Employment Agreement dated January 1, 2015 between Selwyn Mould and the Registrant</u>	Incorporated by reference from the Registrant’s Registration Statement on Form S-1 filed on June 9, 2015.
<u>10.7*</u>	<u>Executive Employment Agreement dated January 15, 2015 between Stephen D. Cotton and the Registrant</u>	Incorporated by reference from the Registrant’s Registration Statement on Form S-1 filed on June 9, 2015.

<u>10.8</u>	<u>Form of Lock-Up Agreement</u>	Incorporated by reference from the Registrant's Registration Statement on Form S-1 filed on June 9, 2015.
<u>10.9</u>	<u>Third Amendment to Purchase and Sale Agreement dated May 19, 2015 between Tahoe-Reno Industrial Center, LLC and the Registrant</u>	Incorporated by reference from the Registrant's Registration Statement on Form S-1 filed on June 9, 2015.
<u>10.10</u>	<u>Lease Agreement dated August 7, 2015 between Registrant and with BSREP Marina Village Owner LLC</u>	Incorporated by reference from the Registrant's Current Report on Form 8-K filed on August 27, 2015.
<u>10.11</u>	<u>Contract for Construction dated September 22, 2015 between Aqua Metals, Reno, Inc. and Miles Construction</u>	Incorporated by reference from the Registrant's Quarterly Report on Form 10-Q filed November 10, 2015.
<u>10.12</u>	<u>Loan Agreement dated November 3, 2015 between Aqua Metals Reno, Inc. and Green Bank, N.A.</u>	Incorporated by reference from the Registrant's Quarterly Report on Form 10-Q filed November 10, 2015.
<u>10.13</u>	<u>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.</u>	Incorporated by reference from the Registrant's Quarterly Report on Form 10-Q filed November 10, 2015.
<u>10.14</u>	<u>Stock Purchase Agreement between Aqua Metals, Inc. and Interstate Emerging Investments, LLC dated May 18, 2016</u>	Incorporated by reference from the Registrant's Quarterly Report on Form 10-Q filed on August 10, 2016.
<u>10.15</u>	<u>Stock Purchase Agreement between Aqua Metals, Inc. and the Purchasers, named therein dated May 18, 2016</u>	Incorporated by reference from the Registrant's Quarterly Report on Form 10-Q filed on August 10, 2016.
<u>10.16</u>	<u>Registration rights agreement between Aqua Metals, Inc. and the Purchasers, named therein dated May 18, 2016</u>	Incorporated by reference from the Registrant's Quarterly Report on Form 10-Q filed on August 10, 2016.
<u>10.17</u>	<u>Investor Rights Agreement between Aqua Metals, Inc. and Interstate Emerging Investments, LLC dated May 18, 2016</u>	Filed as an exhibit to the Registrant's Registration Statement on Form S-3 filed on August 1, 2016.
<u>10.18</u>	<u>Credit Agreement between Aqua Metals, Inc. and Interstate Emerging Investments, LLC dated May 18, 2016</u>	Incorporated by reference from the Registrant's Quarterly Report on Form 10-Q filed on August 10, 2016.
<u>10.19*</u>	<u>Amendment No. 1 dated August 8, 2016 to Executive Employment Agreement dated January 15, 2015 between Aqua Metals, Inc. and Stephen R. Clarke</u>	Incorporated by reference from the Registrant's Quarterly Report on Form 10-Q filed on August 10, 2016.
<u>10.20*</u>	<u>Amendment No. 1 dated August 8, 2016 to Executive Employment Agreement dated January 15, 2015 between Aqua Metals, Inc. and Thomas Murphy</u>	Incorporated by reference from the Registrant's Quarterly Report on Form 10-Q filed on August 10, 2016.
<u>10.21*</u>	<u>Amendment No. 1 dated August 8, 2016 to Executive Employment Agreement dated January 15, 2015 between Aqua Metals, Inc. and Selwyn Mould</u>	Incorporated by reference from the Registrant's Quarterly Report on Form 10-Q filed on August 10, 2016.

<u>10.22*</u>	<u>Amendment No. 1 dated August 8, 2016 to Executive Employment Agreement dated January 15, 2015 between Aqua Metals, Inc. and Steve Cotton</u>	Incorporated by reference from the Registrant's Quarterly Report on Form 10-Q filed on August 10, 2016.
<u>10.23+</u>	<u>Tolling/Lead Purchase Agreement dated February 7, 2017 between the Registrant and Johnson Controls Battery Group, Inc.</u>	Incorporated by reference from the Registrant's Quarterly Report on Form 10-Q filed on May 10, 2017.
<u>10.24+</u>	<u>Equipment Supply Agreement dated February 7, 2017 between the Registrant and Johnson Controls Battery Group, Inc.</u>	Incorporated by reference from the Registrant's Quarterly Report on Form 10-Q filed on May 10, 2017.
<u>10.25</u>	<u>Stock Purchase Agreement dated February 7, 2017 between the Registrant and Tyco International Finance S.A.</u>	Incorporated by reference from the Registrant's Quarterly Report on Form 10-Q filed on May 10, 2017.
<u>10.26</u>	<u>Investor Rights Agreement dated February 7, 2017 between the Registrant and Tyco International Finance S.A.</u>	Incorporated by reference from the Registrant's Registration Statement on Form S-3 filed on February 27, 2017
<u>10.27</u>	<u>Agreement dated April 13, 2017 between Registrant and Ebonex Limited</u>	Incorporated by reference from the Registrant's Quarterly Report on Form 10-Q filed on August 9, 2017.
<u>10.28*</u>	<u>Executive Employment Agreement dated July 14, 2017 between Mark Weinswig and the Registrant</u>	Incorporated by reference from the Registrant's Quarterly Report on Form 10-Q filed on August 9, 2017.
<u>10.29*</u>	<u>Aqua Metals, Inc. Officer and Director Share Purchase Plan</u>	Incorporated by reference from the Registrant's Quarterly Report on Form 10-Q filed on November 9, 2017.
<u>21.1</u>	<u>List of subsidiaries of Registrant.</u>	Incorporated by reference from the Registrant's Registration Statement on S-1 filed on June 9, 2015.
<u>23.1</u>	<u>Consent of Armanino LLP, Independent Registered Public Accounting Firm.</u>	Filed electronically herewith.
<u>31.1</u>	<u>Certification under Section 302 of the Sarbanes-Oxley Act of 2002.</u>	Filed electronically herewith.
<u>31.2</u>	<u>Certification under Section 302 of the Sarbanes-Oxley Act of 2002.</u>	Filed electronically herewith.
<u>32.1</u>	<u>Certifications Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, 18 U.S.C. Section 1350.</u>	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.

+ Certain portions of the exhibit have been omitted pursuant to Registrant's confidential treatment request filed with the Commission pursuant to Rule 24b-2 under the Securities Exchange Act of 1934. The omitted text has been filed separately with the Commission.

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 15, 2018

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 15, 2018
<u>/s/ Thomas Murphy</u> Thomas Murphy	Chief Financial Officer <i>(Principal Financial and Accounting Officer)</i>	March 15, 2018
<u>/s/ Selwyn Mould</u> Selwyn Mould	Chief Operating Officer and Director	March 15, 2018
<u>/s/Vincent L. DiVito</u> Vincent L. DiVito	Director	March 15, 2018
<u>/s/Mark Slade</u> Mark Slade	Director	March 15, 2018
<u>/s/Mark Stevenson</u> Mark Stevenson	Director	March 15, 2018

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 and 333-220171) on Form S-8 and (Nos. 333-212808, 333-213501 and 333-216250) on Form S-3 of Aqua Metals, Inc. of our report dated March 15, 2018, with respect to the consolidated financial statements of Aqua Metals, Inc. and subsidiaries as of December 31, 2017 and December 31, 2016, and the related consolidated statements of operations, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2017.

/s/ Armanino LLP

San Ramon, CA
March 15, 2018

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 15, 2018

By: /s/ Stephen R. Clarke

Stephen R. Clarke, Chief Executive Officer

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 15, 2018

By: /s/ Thomas Murphy

Thomas Murphy, Chief Financial Officer
(Principal Financial Officer)

**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, 2017 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 15, 2018
Stephen R. Clarke

Title: Chief Executive Officer
(Principal Executive Officer)

By: /s/ Thomas Murphy Dated: March 15, 2018
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.
