

IN THE UNITED STATES DISTRICT COURT  
FOR THE NORTHERN DISTRICT OF GEORGIA  
ATLANTA DIVISION

ECHOLOGICS, LLC,  
MUELLER INTERNATIONAL, LLC,  
and MUELLER CANADA, LTD. d/b/a  
ECHOLOGICS,

Plaintiffs,

v.

AQUARIUS SPECTRUM, LTD.,

Defendant.

No.

JURY TRIAL DEMANDED

**COMPLAINT FOR PATENT INFRINGEMENT**

Plaintiffs, Echologics, LLC, Mueller International, LLC (“Mueller International”), and Mueller Canada, Ltd. d/b/a Echologics (“Mueller Canada”) (collectively, “Plaintiffs” or “Echologics”), through their attorneys, hereby demand a jury trial and complain of Defendant Aquarius Spectrum, Ltd. (“Defendant” or “AQS”), as follows:

**NATURE OF THE ACTION**

1. This is an action for patent infringement arising under the patent laws of the United States, 35 U.S.C. § 1, *et seq.*, to enjoin and obtain damages resulting from Defendant’s infringement of Plaintiffs’ U.S. Patent No. 7,475,596 (“the ’596

Patent” or “the Asserted Patent”).

2. In this action, Plaintiffs seek damages, injunctive relief, attorneys’ fees, costs, and interest for Defendant’s acts of willful patent infringement.

### **PARTIES**

3. Plaintiff Echologics, LLC, is a Delaware limited liability company with a principal place of business at 1200 Abernathy Road NE, Atlanta, GA 30328.

4. Plaintiff Mueller International, LLC, is a Delaware limited liability corporation with a principal place of business at 1200 Abernathy Road NE, Atlanta, GA 30328.

5. Plaintiff Mueller Canada, Ltd. d/b/a Echologics is a Canadian limited company with a principal place of business at 82 Hooper Road, Barrie, Ontario, Canada L4N 8Z9.

6. Upon information and belief, Defendant Aquarius Spectrum, Ltd. is an Israeli limited liability company with a principal place of business at 8C Ha’Zoran St., Netanya 4250408, Israel.

### **JURISDICTION AND VENUE**

7. This Court has jurisdiction over the subject matter of this patent infringement action pursuant to 28 U.S.C. §§ 1331 and 1338(a).

8. This Court has personal jurisdiction over Defendant at least under Federal Rule of Civil Procedure 4(k)(2) because this dispute involves a federal question; Defendant is not subject to personal jurisdiction in any state; and due process considerations are met because AQS has minimum contacts with the United States, such that the maintenance of the suit would not offend fair play and substantial justice.

9. Venue is proper in this District under 28 U.S.C. § 1391(c)(3) because, among other things, AQS is a foreign corporate defendant and may be sued in any judicial district.

## **FACTUAL BACKGROUND**

### **Plaintiff Echologics and the Asserted Patent**

10. Mueller Water Products, Inc. (“Mueller”) is a public company with subsidiaries that are leading manufacturers of products and providers of services used in the transmission, distribution, and measurement of water. Mueller and its subsidiaries have been providing innovative products for over 160 years.

11. Two such subsidiaries, Plaintiffs Echologics, LLC and Mueller Canada, provide a broad range of technologies, products, and services that can non-invasively (without disrupting service or introducing a foreign object into the water system) detect underground leaks and assess the condition of water mains.

12. Echologics's products and services provide leak detection and pipe condition assessment under the ECHOLOGICS® brand, among others, including ePulse® condition assessment technology, EchoShore® leak monitoring system, and LeakFinderST™ advanced acoustic leak detection products.

13. Echologics has spent millions of dollars on research and development to develop new products and improve and refine existing products. As a result of Echologics's history and dedication to innovation, Echologics has been awarded numerous United States patents, and has additional United States patent applications pending that cover various aspects of Echologics's technologies, products, and services.

14. The '596 Patent, in particular, is directed to the non-destructive condition assessment of pipes, such as buried pipes in municipal water systems. For utilities with aging pipeline infrastructure challenges, for example, the '596 Patent's condition assessment technology is ideal to quickly understand the structural strength of buried assets and optimize rehabilitation and replacement programs.

15. The '596 Patent issued on January 13, 2009, is entitled "Non-Destructive Testing of Pipes," and names Osama Hunaidi, Marc Bracken, and Alex Wang as inventors. Plaintiff Mueller International owns by assignment the

right, title, and interest in the '596 Patent. A true and correct copy of the '596 Patent is attached hereto as Exhibit A.

**Acts Giving Rise to this Action**

16. The allegations provided below are exemplary and without prejudice to Plaintiffs' infringement contentions. In providing these allegations, Plaintiffs do not convey or imply particular claim constructions or the precise scope of the claims. Plaintiffs' claim construction contentions regarding the meaning and scope of the claim terms will be provided under the Court's scheduling order and local rules.

17. Defendant provides monitoring products and services for pipeline infrastructure. AQS has partnered with certain companies in the U.S., such as Trimble and Pipe Tools, and has done work in the U.S., including but not limited to Oakland, California; Beverly Hills, California; Arlington, Texas; and New Jersey.

18. Defendant AQS is offering for sale and/or selling pipe condition assessment products and systems, including, but not limited to, the AQS-SYS and iQuarius products (collectively "the AQS Products and Systems"). Upon information and belief, AQS has offered to sell, sold, and used the AQS Products and Systems within the U.S.

19. On August 2, 2019, Plaintiffs, through their counsel, formally notified AQS's CEO, Oded Fruchtman, via letter sent by FedEx, of various patents,

including the '596 Patent, covering various aspects of Plaintiffs' technologies, systems, and methods. Plaintiffs requested that AQS provide them with product information about the AQS Products and Systems. Upon information and belief, AQS received this letter on August 6, 2019.

20. On August 21, 2019, AQS sent Plaintiffs a response in which it denied infringement and refused to provide information regarding its products.

21. Plaintiffs have nevertheless uncovered sufficient information to show, as described in more detail below, that each element of at least one claim of the '596 Patent is literally present in the AQS Products and Systems. To the extent that any element is not literally present or practiced, each such element is present or practiced under the doctrine of equivalents.

22. AQS has touted pipe condition assessment capabilities that are very similar to Echologics's ePulse technology, which is the subject of Plaintiffs' Asserted Patent, among others. For example, as shown in the screenshot below, AQS described its pipe condition assessment methods in a 2019 product webinar presentation (the "AQS Presentation") as providing an "[e]stimation of pipe wall strength by correlation analysis of wave transmission in the pipe."


**More Benefits - Pipe Condition Assessment**

Pipe replacement cost about \$1M per 1 km

- Detects malfunctioning equipment (valves, air vents, meters)
- Replacement prioritization by condition rather than age
- Extend the life of existing assets

Assessment through 3 methods:

- 1 Leak statistics and its development dynamics
- 2 Estimation of pipe wall strength by correlation analysis of wave transmission in the pipe
- 3 Pressure transient reflection analysis that enables detecting pipe wall defects



Aquarius Spectrum

23. Attached as Exhibit B is a February 15, 2018, AQS press release touting AQS’s partnership with Trimble to act as AQS’s distributor for the U.S. market. The press release describes how AQS’s customers will “be able to assess the condition of the various segments of their distribution and transmission mains.”

24. Attached as Exhibit C is a May 23, 2019, AQS press release announcing that AQS would present “its latest line of products for leak detection and pipe condition assessment” at American Water Works Association’s Annual Conference and Exposition in Denver, Colorado.

25. Attached as Exhibit D is a September 26, 2019, AQS press release touting AQS projects on which its technology is providing an “analysis of the pipes

[sic] condition in order to prioritize the replacement of faulty pipeline sections.”

26. Attached as Exhibit E is a copy of a webpage from AQS’s current website, available at aqs-systems.com, describing the AQS Products and Systems. AQS states that its AQS-SYS system, for example, “has the [a]bility to provide pipe condition assessment optimizing the best pipe section to be replaced enhancing budget allocation.”

27. Defendant’s AQS Products and Systems are non-limiting examples that were identified based on publicly available information. Plaintiffs reserve the right to identify additional activities, products, and services, including but not limited to other products within Defendant’s AQS-SYS and iQuarius product lines, found to be infringing the Asserted Patent and/or other of Plaintiffs’ patents on the basis of, e.g., information obtained during discovery.

28. In short, Defendant is making extensive use of Plaintiffs’ patented technologies, including the technology described and claimed in the Asserted Patent. Plaintiffs have no choice but to defend their proprietary and patented technology. Plaintiffs thus request that this Court award them damages sufficient to compensate for Defendant’s infringement of the Asserted Patent, find this case exceptional and award Plaintiffs their attorneys’ fees and costs, and grant



preliminary and permanent injunctions against Defendant to prevent ongoing infringement of the Asserted Patent.

**COUNT I**  
**DIRECT AND INDIRECT INFRINGEMENT OF**  
**U.S. PATENT NO. 7,475,596**

29. Plaintiffs incorporate by reference and reallege all the foregoing paragraphs of this Complaint as if fully set forth herein.

30. Defendant has had knowledge of the '596 Patent, and its infringement of that patent, at least as of August 6, 2019, the date Defendant received Plaintiffs' August 2, 2019, letter.

31. Defendant is engaged in the design, manufacture, use, importation, sale and/or offering for sale in the United States of pipe condition assessment products and systems that directly infringe, either literally or under the doctrine of equivalents, at least claim 1 of the '596 Patent.

32. Additionally, on information and belief, Defendant is engaged in the design, manufacture, use, importation, sale, and/or offering for sale in the United States of pipe condition assessment products and systems that indirectly infringe, either literally or under the doctrine of equivalents, the '596 Patent.

33. For example, users of Defendant's AQS Products and Systems,

including Defendant's customers, distributors, suppliers, and end-users, commit acts of direct infringement when they use the AQS Products and Systems in accordance with claim 1 of the '596 Patent.

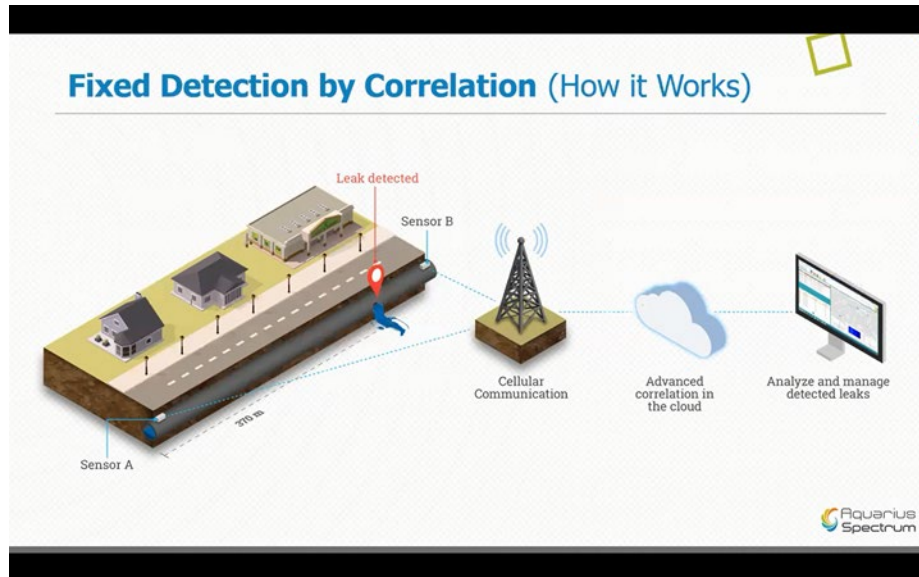
34. Defendant has had knowledge of these acts of direct infringement of claim 1 of the '596 Patent and nevertheless actively induces users, with specific intent, to infringe by, for example, instructing them how to use the AQS Products and Systems in an infringing manner in Defendant's product literature and promotional materials and at trade shows and providing them with cloud-based processing, a web interface, and a support platform using data transmitted from the AQS Products and Systems in an infringing manner. Defendant further contributes to these acts of direct infringement because Defendant's AQS Products and Systems perform a material part of the claimed inventions of the '596 Patent and are not staple articles or commodities of commerce suitable for substantial non-infringing use, and Defendant knows that the AQS Products and Systems are especially made and adapted for use in an infringing manner.

35. For example, claim 1 of the '596 Patent requires "[a]n apparatus for the non-destructive condition assessment of a pipe carrying a fluid." Defendant's AQS Products and Systems include an apparatus for condition assessment of a pipe

carrying a fluid, such as water. *See, e.g.*, Exhibit B (describing how customers of the AQS Products and Systems will “be able to assess the condition of the various segments of their distribution and transmission mains.”); Exhibit E (stating that the AQS-SYS system “has the [a]bility to provide pipe condition assessment optimizing the best pipe section to be replaced enhancing budget allocation.”). Further, the condition assessment performed by Defendant’s AQS Products and Systems is non-destructive. *See, e.g.*, Exhibit E (explaining that “acoustic sensors are installed on existing water supply infrastructure and so [the AQS-SYS system] monitors the entire water system of a town or city 365 days a year.”).

36. Claim 1 of the ’596 Patent further requires “first and second sensors for detecting an acoustic disturbance propagating past two longitudinally separated points on said pipe.” Defendant’s AQS Products and Systems include acoustic sensors that meet this limitation. *See, e.g.*, Exhibit C (“AQS-SYS is using permanent vibration and hydrophone sensors equipped with new-generation signal processing algorithms enables active monitoring of all pipe materials and sizes, using typically 3 sensors per mile of pipe.”); Exhibit D (“The sensors are permanently monitoring the underground pipeline on daily basis, providing accurate data on the development of hidden leaks, as well as analysis of the pipes condition in order to prioritize the

replacement of faulty pipeline sections.”); *see also* AQS Presentation (showing two sensors for detecting an acoustic disturbance propagating past two longitudinally separated points on said pipe):



37. Claim 1 of the '596 Patent further requires “a processor receiving inputs from said first and second sensors.” Defendant’s AQS Products and Systems include a processor that receives inputs from the acoustic sensors. *See, e.g.*, Exhibit E (“AQS is based on correlating sensors that integrate 3G/4G cellular communication, GPS synchronization and cloud-based automatic signal processing.”).

38. Claim 1 of the '596 Patent further requires that the processor be programmed to “determine an actual value representative of the propagation

velocity of said acoustic disturbance.” The processor of Defendant’s AQS Products and Systems meets this limitation. *See, e.g.*, AQS Presentation (describing Defendant’s AQS Products and Systems as performing pipe condition assessment through an “[e]stimation of pipe wall strength by correlation analysis of wave transmission in the pipe.”). Based on Echologics’s understanding of the current state of the art and pipe condition assessment techniques, “wave transmission in the pipe” refers to the propagation of acoustic disturbances in the pipe and the “correlation analysis” performed by the AQS Products and Systems includes using the acoustic sensors to determine an actual value representative of the propagation velocity of the acoustic disturbances.

39. Claim 1 of the ’596 Patent further requires that the processor be programmed to “compute a corresponding predicted value for the propagation velocity as a function of at least one wall thickness parameter of said pipe by using a theoretical model for the propagation of acoustic waves in said pipe that assumes said pipe has a finite wall thickness with a predetermined circumferential thickness profile.” The processor of Defendant’s AQS Products and Systems meets this limitation. *See, e.g.*, AQS Presentation (describing Defendant’s AQS Products and Systems as performing pipe condition assessment through an “[e]stimation of pipe

wall strength by correlation analysis of wave transmission in the pipe.”). Based on Echologics’s understanding of the current state of the art and pipe condition assessment techniques, “[e]stimation of pipe wall strength” includes computing a corresponding predicted value for the propagation velocity as a function of at least one wall thickness parameter of the pipe, such as a mean wall thickness or a maximum wall thickness. Further, to estimate the pipe wall strength, the AQS Products and Systems must use a theoretical model for the propagation of acoustic waves in the pipe that assumes the pipe has a finite wall thickness. Upon information and belief, the theoretical model also assumes that the pipe wall thickness has a predetermined circumferential thickness profile, such as a linear circumferential thickness, a non-linear circumferential thickness, or a uniform circumferential thickness.

40. Claim 1 of the ’596 Patent further requires that the processor be programmed to “compute said wall thickness parameter by matching said actual value with said predicted value.” The processor of Defendant’s AQS Products and Systems meets this limitation. *See, e.g.*, AQS Presentation (describing Defendant’s AQS Products and Systems as performing pipe condition assessment through an “[e]stimation of pipe wall strength by correlation analysis of wave transmission in

the pipe.”). Based on Echologics’s understanding of the current state of the art and pipe condition assessment techniques, “[e]stimation of pipe wall strength” includes computing the wall thickness parameter, such as a mean wall thickness or a maximum wall thickness, by matching the actual value for the propagation velocity with the predicted value for the propagation velocity. Further, the computed wall thickness parameter provides an estimate of the pipe wall strength and an assessment of the condition of the pipe.

41. Plaintiffs thus request that this Court award them damages sufficient to compensate for Defendant’s infringement of the ‘596 Patent, find this case exceptional and award Plaintiffs their attorneys’ fees and costs, and grant preliminary and permanent injunctions against Defendant to prevent ongoing infringement of the ‘596 Patent.

42. Plaintiffs are without an adequate remedy at law and will be irreparably harmed if the Court does not enter an order enjoining Defendant from infringing the ‘596 Patent.

### **JURY DEMAND**

Plaintiffs hereby request a trial by jury on all issues so triable pursuant to Rule 38 of the Federal Rules of Civil Procedure.

### **PRAYER FOR RELIEF**

WHEREFORE, Plaintiffs Echologics, LLC, Mueller International, LLC, and Mueller Canada, Ltd. d/b/a Echologics respectfully request that the Court find in their favor and against Defendant, Aquarius Spectrum, Ltd., and that the Court grant Plaintiffs the following relief:

- (a) An adjudication that Plaintiffs' rights in the Asserted Patent are valid and enforceable;
- (b) An adjudication that one or more claims of the Asserted Patent have been infringed, either literally and/or under the doctrine of equivalents, by Defendant;
- (c) An adjudication that, in accordance with 35 U.S.C. § 283, Defendant, and all affiliates, employees, agents, officers, directors, attorneys, successors, and assigns and all those acting on behalf of or in active or concert or participation with any of them, are preliminarily and permanently enjoined from infringing the Asserted Patent;
- (d) An award of damages sufficient to compensate Plaintiffs for Defendant's direct infringement of the Asserted Patent, including lost profits suffered by Plaintiffs as a result of Defendant's direct infringement for the Asserted Patent, and in an amount not less than a



reasonable royalty;

- (e) An award of damages sufficient to compensate Plaintiffs for Defendant's indirect infringement of the Asserted Patent, including lost profits suffered by Plaintiffs as a result of Defendant's infringement and in an amount not less than a reasonable royalty;
- (f) An order awarding Plaintiffs treble damages under 35 U.S.C. § 284 as a result of Defendant's willful and deliberate infringement of the Asserted Patent;
- (g) A finding that the case is exceptional under 35 U.S.C. § 285 and that Plaintiffs shall be awarded their attorneys' fees;
- (h) An award to Plaintiffs of their costs and expenses in this action;
- (i) An award of pre-judgment and post-judgment interest to Plaintiffs; and
- (j) Such other and further relief as the Court may deem just and proper under the circumstances.

Dated: December 7, 2020.

Respectfully submitted,

*/s/ Coby S. Nixon*

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Mueller Canada, Ltd. d/b/a Echologics*

**CERTIFICATE OF COMPLIANCE**

Pursuant to Local Rule 7.1D, counsel certifies that the foregoing was prepared in Times New Roman, 14 point font, in compliance with Local Rule 5.1C.

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