

EXHIBIT 1

**UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF VIRGINIA
ALEXANDRIA DIVISION**

**RAI STRATEGIC HOLDINGS, INC. and
R.J. REYNOLDS VAPOR COMPANY,**

**Plaintiffs and Counterclaim
Defendants,**

v.

**ALTRIA CLIENT SERVICES LLC; PHILIP
MORRIS USA INC.; and PHILIP MORRIS
PRODUCTS S.A.,**

**Defendants and Counterclaim
Plaintiffs.**

Civil Action No. 1:20-cv-393

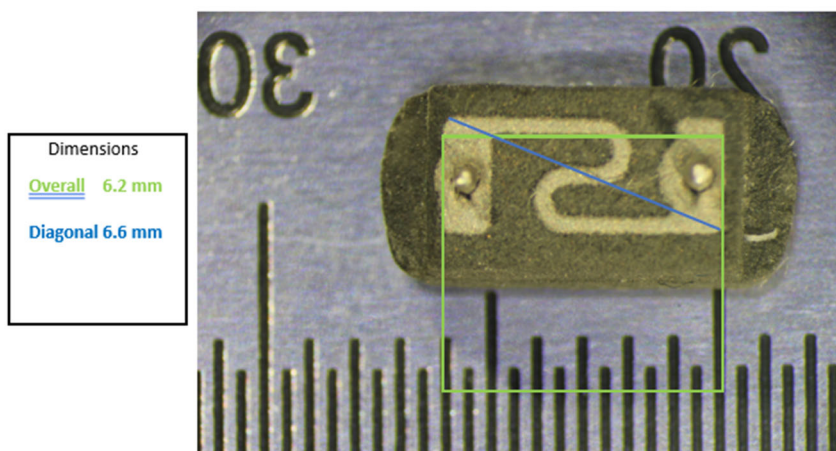
**SUPPLEMENTAL OPENING EXPERT REPORT OF HAROLD J. WALBRINK
RELATING TO INFRINGEMENT**

62. The low chromium nickel-iron alloy resistive heating element is in the shape of a sinuous line having two ends as shown below. The S-shaped region of the low chromium nickel-iron alloy resistive heating element is a sinuous line because the plain meaning of “sinuous” is a “wavy form” or “winding.” See “sinuous,” 2001 Merriam-Webster’s Dictionary at 1093. An S-shape structure is a wavy form and winding.

63. The S-shaped thermal resistor has two ends as shown and discussed above (at either end of the “S”).

5. “dimensions substantially the same as a cross-section of a cigarette or a cigar, wherein interspaces of the shape are configured to allow a flow of fluid therethrough”

64. The S-shaped “low chromium nickel-iron alloy resistive heating element” in the Alto has dimensions substantially the same as a cross-section of a cigarette or a cigar. The S-shape resistive heater has a horizontal dimension of 6.2 mm and a diagonal dimension of 6.6 mm, which are substantially the same as a cross-section of a cigarette. I annotated this in the photograph below, which I took of a VUSE Alto that I disassembled.



65. Such dimensions enable a conventional smoking experience, where a user holds the cigarette/cigar between their fingers and lips when smoking. Reynolds touts that the Alto’s “Compact design” (RJREDVA_001286318 at RJREDVA_001286341) and states that it is

“Engineered to mimic the cigarette experience in satisfaction and taste.” RJREDVA_001286318 at RJREDVA_001286341. This is enabled by sizing the Heater with dimensions that are substantially the same as a cross-section of a cigarette or a cigar.



66. The sources that Reynolds cited during claim construction briefing confirm the Alto meets this limitation. For example, U.S. Patent No. 8,733,346 (the “’346 patent”) issued to Philip Morris Products S.A. and names Arno Rinker as the inventor (the same inventor named on the ’265 patent). The ’346 patent defines dimensions of a cigarette or cigar as between 6 and 14 mm. *See* ’346 patent at 3:33-37; *see also* U.S. Patent Pub. No. 2010/0126505 ¶ 0029. Similarly, other patents being asserted in this case against RJR’s VUSE Products—specifically the ’911 and ’556 patents—describe cigarettes and cigars with diameters between 5 and 30 mm. ’911 patent at 11:5-7; ’556 patent at 6:66-67, 7:1-3.

67. Similarly, an article titled “Influence of cigarette circumference on smoke chemistry, biological activity, and smoking behavior,” authored by researchers at Reynolds’ parent, British American Tobacco (“BAT”), refers to cigarettes known as “super slim” that have a

circumference of between 14-19 mm, or dimensions of between 4.46 and 6 mm. *See* McAdam et al., “Influence of Cigarette Circumference on Smoke Chemistry, Biological Activity and Smoking Behaviur” (2016) at 112. I understand that after I submitted my report, Reynolds produced for the first time a video (RJREDVA_001650063) and photograph of the heater purportedly supporting Dr. Suhling’s opinion that the “actual resistive heater” does not include the outer “electrode” portions. I have seen no evidence that either the video or photograph describes the actual heater in any Accused Product. Nor have I seen adequate information about the testing parameters and conditions that would allow Dr. Suhling to reach his conclusions. Regardless, the thermal resistor meets this limitation because, under the new theory advanced by Dr. Suhling (Suhling Rbt. Rpt. ¶ 82), it fits within an electronic cigarette that is largely the same size as a cigarette or cigar and evenly distributes heat on the surface of the ceramic to vaporize the e-liquid in the ceramic. The thermal resistor, however, need not be “essentially circular,” because I understand that the Court has already declined to impose such a limitation during claim construction and certain cigars, such as box-pressed cigars, are non-circular.

68. To the extent Reynolds argues that the claimed “dimensions” must result in a cylindrical or circular shape or some other “dimensions,” I disagree. I understand that Reynolds’ proposed construction of this limitation sought to limit the shape of the claimed “thermal resistor” to “an essentially circular shape.” I understand that the Court rejected this proposed construction and construed the term to have its plain and ordinary meaning, which is not limited to a circular shape.

69. The interspaces of the S-shaped resistive heating element are configured to allow a flow of fluid therethrough because there is nothing in the interspaces of the printed S-shaped low chromium nickel-iron alloy that would obstruct or otherwise impede the flow of fluid. The E-

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