

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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AROMA360, LLC,

Petitioner,

v.

AIR ESSCENTIALS, INC.,

Patent Owner.

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Case IPR 2025-00706  
U.S. Patent No. 10,583,449

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**PATENT OWNER’S MOTION TO EXCLUDE EVIDENCE**

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Patent Trial and Appeal Board  
U.S. Patent and Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450

## I. INTRODUCTION

Pursuant to 37 C.F.R. §§ 42.62 and 42.64(c), and Federal Rules of Evidence (“FRE”) 401–403, 611(b), 702, and 703, Patent Owner Air Essentials, Inc. (“Patent Owner”) respectfully moves to exclude the identified portions of Dr. Gerald J. Micklow’s deposition testimony in Exhibit 1046 and Petitioner’s corresponding reliance on that testimony in its Reply [Paper 20].

Petitioner presents isolated answers elicited through ambiguous or out-of-scope questions as affirmative concessions concerning claim construction, Dr. Micklow’s consideration of the ’449 Patent, and where the claimed fluid dispersion forms. *See* Paper 20, 2–7. To be clear, Patent Owner does not challenge Dr. Micklow’s qualifications, competence, or the methodology underlying the opinions disclosed in his direct testimony declaration [Ex. 2002]. Rather, Petitioner’s questions were not tied to those opinions and instead assumed disputed propositions or sought matters he had not been retained to analyze independently, yet Petitioner now relies on the resulting answers as affirmative proof of new propositions. Their limited probative value is substantially outweighed by the danger of confusion and a misleading impression under FRE 403.

Patent Owner timely objected, but Petitioner did not cure the defects by identifying the disclosed opinion at issue, accurately framing the patent or structure under discussion, or reformulating its compound and assumptive questions.

Petitioner should not now transform generalized and qualified answers into affirmative opinions Dr. Micklow was never asked to develop and did not opine on in his direct testimony declaration.

## II. IDENTIFICATION AND PRESERVATION OF OBJECTIONS

Patent Owner moves to exclude the following portions of Exhibit 1046:

| Challenged Testimony                                         | Objection Preserved | Petitioner's Reliance                                                                                                                                                                          |
|--------------------------------------------------------------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ex. 1046, 200:14–16                                          | Form and Scope      | Paper 20, 2, as purported proof that Dr. Micklow failed to consider relevant disclosure of the '449 Patent and lacked an understanding of the limitations addressed in Patent Owner's Response |
| Ex. 1046, 111:20–25                                          | Form                | Paper 20, 3–4, as purported proof that Dr. Micklow did not apply the stipulated construction of “fluid dispersion”                                                                             |
| Ex. 1046, 115:15–18                                          | Form                | Paper 20, 2, as purported proof that Dr. Micklow disregarded the parties' claim constructions and applied his own understandings                                                               |
| Ex. 1046, 117:4–15                                           | Form                | Paper 20, 2-3, as an allegedly improper construction of “mixing chamber”                                                                                                                       |
| Ex. 1046, 157:20–159:2, cited by Petitioner as “158:2–159:2” | Form and Scope      | Paper 20, 7, as a purported admission that formation of the claimed fluid dispersion requires mixing downstream of the mixing chamber                                                          |

Patent Owner identifies both Petitioner's citations and the precise transcript locations above. The complete exchange at Exhibit 1046, 157:20–159:2 is

challenged because Petitioner's cited answer at 158:2–159:2 cannot be evaluated apart from the preceding discussion of the mixing-chamber boundary, reference numerals, and fluid-flow path.

Patent Owner timely objected to each challenged question. The objections were concise and nonargumentative, consistent with 37 C.F.R. § 42.53(f)(8). Petitioner's counsel acknowledged that he was affording Patent Owner "some leeway" regarding objections while requesting that counsel generally "stick[]" to" objections based on form. Ex. 1046, 85:1–4. Against that backdrop, and in an effort to compromise with counsel for Petitioner, part way through the deposition counsel for Patent Owner ceased using the phrasing "Objection, scope" to avoid any argument that Patent Owner was coaching its witness, and instead limited its objections to the concise terms "Objection, form" to identify the perceived defect without engaging in a speaking objection that might influence the witness's testimony. Petitioner neither requested clarification nor attempted to cure the defects by reformulating its questions, tying them to disclosed opinions, or supplying omitted technical parameters. The objections were therefore preserved under 37 C.F.R. § 42.64(c).

The scope issue is substantive. Dr. Micklow's declaration identified specified technical disagreements with Dr. White's analysis. Ex. 2002, ¶ 17. It did not provide a freestanding claim-construction analysis, purport to sponsor every argument and

figure reproduced in Patent Owner's Response, or independently map the complete internal flow path of the '449 Patent to determine the precise stage at which every aspect of droplet formation occurs. Petitioner's questions sought new opinions on those separate subjects and now present the answers as though they had been developed and disclosed in Dr. Micklow's declaration.

### **III. LEGAL STANDARD**

The Federal Rules of Evidence apply in this proceeding. 37 C.F.R. § 42.62(a). Irrelevant evidence is inadmissible, and relevant evidence may be excluded when its probative value is substantially outweighed by the danger of confusion or misleading the factfinder. FRE 401–403. Expert opinion offered as substantive proof must be based on sufficient facts or data and reliably apply appropriate principles to the facts presented. FRE 702–703.

Cross-examination is limited to the subject matter of the direct examination and matters affecting credibility. FRE 611(b); 37 C.F.R. § 42.53(d)(5)(ii). Cross-examination should not be used to elicit materially new opinions outside the direct testimony and then present them as affirmative proof. An answer to an undefined or incomplete hypothetical must therefore be evaluated in light of both the scope of the disclosed opinions and the facts supplied in the question.

#### IV. ARGUMENT

##### **A. Petitioner Elicited Generalized Claim-Term Testimony Outside the Scope of Dr. Micklow's Disclosed Opinions**

Petitioner relies on three excerpts to argue that Dr. Micklow disregarded the parties' claim constructions and substituted his own. Paper 20, 2–5. But Dr. Micklow's assignment was to identify specified technical disagreements with Dr. White's analysis, not to provide a freestanding legal claim-construction analysis. Ex. 2002, ¶ 17; Ex. 1046, 277:1–280:18. Petitioner instead elicited generalized answers divorced from the particular opinions and prior-art analyses disclosed in his declaration and now recasts those answers as formal claim-construction opinions.

##### **1. Exhibit 1046, 111:20–25 does not establish that Dr. Micklow rejected or disregarded the stipulated “fluid dispersion” construction.**

Petitioner cites Exhibit 1046, 111:20–25 as an admission that Dr. Micklow did not apply the parties' stipulated construction of “fluid dispersion.” Paper 20, 3–5. Petitioner asked: “In forming your opinions, did you apply the parties agreed-to constructions of the term ‘fluid dispersion’?” Ex. 1046, 111:20–22. Patent Owner objected to the question's form. *Id.* at 111:23. Dr. Micklow responded: “Well, I don't recall seeing that, no.” *Id.* at 111:24–25.

The question improperly conflated Dr. Micklow's independent recollection of reviewing a particular claim-construction document with the scope and basis of the

technical opinions he actually offered. It did not identify the stipulated language, ask Dr. Micklow whether he disagreed with it, or identify an opinion in his declaration that supposedly applied a conflicting definition.

The immediately following testimony confirms the limited meaning of his answer. Dr. Micklow explained that he understood the claim constructions had already been addressed, that he “made [his] opinions based on what [he] read in the patents,” and that claim construction was a matter on which he relied upon counsel rather than an independent legal analysis he had been retained to perform. *Id.* at 112:1–25. His declaration likewise identifies his assignment as responding to specified points in Dr. White’s analysis. Ex. 2002, ¶ 17.

Petitioner nevertheless presents the isolated response as proof that Dr. Micklow affirmatively applied a definition inconsistent with the stipulation. Paper 20, 3–5. Because the question did not supply the construction, identify any inconsistency, or tie the inquiry to a disclosed opinion, the answer does not support that broad proposition and risks confusing lack of independent recollection with affirmative rejection of a governing construction. FRE 401–403. Exhibit 1046, 111:20–25 should therefore be excluded.

**2. Exhibit 1046, 115:15–18 does not establish that Dr. Micklow disregarded the parties’ claim constructions.**

Petitioner also cites Exhibit 1046, 115:15–18 as an admission that Dr. Micklow did not consider the parties’ constructions. Paper 20, 2–3. The testimony arose after Petitioner asked whether he “appl[ied] any claim constructions to the terms in the claims beyond the plain and ordinary meaning.” Ex. 1046, 115:11–13. Patent Owner objected to the question’s form. *Id.* at 115:14.

The question identified no particular term, stipulated or proposed construction, difference from a POSITA’s ordinary understanding, or disclosed opinion allegedly affected by that difference. It also conflated independently formulating a legal construction with applying engineering principles. Dr. Micklow responded that he did not know whether he “would even apply claim construction” and had instead “applied engineering principles.” *Id.* at 115:15–18. That answer reflects his role as a technical expert; it does not establish that he rejected or disregarded any governing construction.

The surrounding testimony confirms that Dr. Micklow approached the terms as an engineer and recalled nothing “out of the ordinary” in the applicable constructions. *Id.* at 115:1–9, 115:19–116:4. Petitioner nevertheless presents the answer as a blanket admission that all of Dr. Micklow’s opinions applied an incorrect claim scope. Because the question identified neither a particular construction nor a

disclosed opinion affected by it, the answer does not support Petitioner's proposition and risks confusing Dr. Micklow's technical role with the separate task of independently construing claims. FRE 401–403. Exhibit 1046, 115:15–18 should therefore be excluded.

**3. The generalized “mixing chamber” discussion was not a formal claim construction.**

Petitioner relies on Exhibit 1046, 117:4–15 to argue that Dr. Micklow adopted a construction of “mixing chamber” requiring “significant volume and dimensions” and a “finely dispersed fluid at the exit.” Paper 20, 3. Petitioner asked whether Dr. Micklow applied the term's “plain and ordinary meaning” and then requested his general engineering understanding of a mixing chamber. Ex. 1046, 117:4–15. Patent Owner objected to the question's form. *Id.* at 117:6.

Petitioner treats the resulting engineering explanation as a formal claim construction conflicting with the parties' positions. But Petitioner did not place either party's proposed construction before Dr. Micklow, ask whether he disagreed with it, tie the question to a particular opinion in his declaration, or ask him to determine the legal scope of “mixing chamber.”

At most, the excerpt reflects Dr. Micklow's general engineering description of how a mixing chamber functions. His declaration did not independently construe “mixing chamber,” and the answer does not establish that he applied a different legal

construction in analyzing any asserted reference. Recasting the exchange as a formal claim-construction opinion risks confusing a generalized technical explanation with an opinion concerning legal claim scope. FRE 401–403. Exhibit 1046, 117:4–15 should therefore be excluded.

**B. Petitioner Mischaracterizes Testimony Concerning Figure 6 as an Admission Regarding Dr. Micklow’s Consideration of the ’449 Patent**

Petitioner cites Exhibit 1046, 200:14–16 for the proposition that Dr. Micklow did not consider Figure 6 of the ’449 Patent. From that answer, Petitioner asserts that Dr. Micklow “did not fully consider relevant disclosure” and “lacked an understanding of the scope for the limitations upon which the Response is based.” Paper 20, 1-2. The transcript does not support those broad propositions.

First, the exchange was expressly framed around Figure 6 of the ’918 Patent. Immediately before the cited question, Petitioner’s counsel represented that Figure 6 and related disclosure were added “for the first time in this patent family with this patent filing,” referring to the ’918 Patent. Ex. 1046, 199:11–25. When Dr. Micklow asked whether there was a Figure 7, Petitioner’s counsel responded that Figure 7 “was added in the ’449 patent.” *Id.* at 200:1–4. Petitioner then asked, without identifying a patent, “So you didn’t base your opinions on Figure 6, correct?” *Id.* at 200:14–15. Dr. Micklow answered, “No, I did not,” and Patent Owner objected based on form and scope. *Id.* at 200:16–17.

Petitioner now presents that answer as an admission specifically concerning Figure 6 of the '449 Patent. Paper 20, 2. But the question arose in an exchange addressing the '918 Patent, and neither the question nor answer identified the '449 Patent. The cited testimony therefore does not support Petitioner's characterization.

Second, the question asked whether Dr. Micklow *based his opinions* on Figure 6; it did not ask whether he reviewed or “fully consider[ed]” the '449 Patent. Dr. Micklow's declaration addressed specified disagreements with Dr. White's analysis. Ex. 2002, ¶ 17. It did not purport to sponsor every argument or figure reproduced in Patent Owner's Response. The fact that a particular figure was not the basis of his disclosed opinions does not establish that he failed to consider the patent as a whole or lacked an understanding of the relevant limitations.

Petitioner's use of the answer thus substitutes two materially broader propositions for the narrower question actually asked: it changes the patent under discussion and equates not basing a disclosed opinion on one figure with failing to consider the patent. That characterization is misleading and risks causing the Board to attribute significance to testimony the question did not elicit. FRE 401–403. Exhibit 1046, 200:14–16 should therefore be excluded.

**C. The Fluid-Flow-Path Exchange Was Based on Ambiguous Component Identifications and Does Not Establish That Fluid Dispersion Forms Only Downstream of the Mixing Chamber**

Petitioner cites Exhibit 1046, 158:2–159:2 as an admission that “forming a fluid dispersion in the ’449 Patent requires that mixing occur downstream of the ‘mixing chamber.’” Paper 20, 7. Patent Owner moves to exclude the complete exchange at Exhibit 1046, 157:20–159:2, including the context and compound question that produced the answer on which Petitioner relies.

The exchange began while Dr. Micklow was attempting to identify the boundaries of the mixing chamber and trace the fluid-flow path shown in the patent figures. Dr. Micklow explained that he would call the mixing chamber the region where the fluid was coming out and mixing, after which the fluid exited through an opening and moved into a larger chamber where the fluid was diffusing. Ex. 1046, 157:20–25. Petitioner then asked whether the mixing chamber, “in [Dr. Micklow’s] view,” included reference numerals 226 and 232. *Id.* at 158:4–7. Dr. Micklow clarified the path as proceeding through “236 into 228 into 232.” *Id.* at 158:8–12.

Petitioner next asserted that, after reference numeral 232, the fluid entered reference numeral 112, which counsel characterized as the “diffusion assembly.” *Id.* at 158:13–15. Dr. Micklow did not adopt that characterization; he stated that the fluid entered the area “where the fluid is diffusing.” *Id.* at 158:16–17. Patent Owner objected based on scope. *Id.* at 158:18–19.

Against that unsettled factual and structural backdrop, Petitioner asked: “So as it exits the mixing chamber, as it exits 232, it continues to diffuse, which means

that the droplets are becoming more uniform in size; is that correct?” *Id.* at 158:20–23. Patent Owner objected based on form and scope. *Id.* at 158:24. Dr. Micklow responded: “That’s what you attempt to do in the diffusion chamber. Yes, uh-huh.” *Id.* at 158:25–159:2.

The question was compound and embedded several disputed assumptions: that reference numeral 232 marked the exit of the claimed mixing chamber; that counsel had correctly identified the downstream components and flow path; that “continu[ing] to diffuse” necessarily meant the claimed fluid dispersion had not already formed in the mixing chamber; and that droplets becoming more uniform downstream was inconsistent with formation of a fluid dispersion upstream. Dr. Micklow’s qualified answer—stating what the system “attempt[s] to do” in the diffusion chamber—did not adopt those assumptions.

Nor does the answer support Petitioner’s broader proposition. An acknowledgment that additional diffusion is attempted downstream is not an opinion that no fluid dispersion forms when compressed air and operative fluid mix in the mixing chamber. Claim 1 expressly recites that “the compressed air and the operative fluid mix together in said mixing chamber to form the fluid dispersion,” while claim 9 provides that the diffusion chamber “facilitates formation of the fluid dispersion” before discharge. Ex. 1001, 15:43–45, 16:20–24. Initial formation in the mixing chamber and further downstream facilitation are not mutually exclusive.

Moreover, Dr. Micklow's declaration did not independently map the complete internal flow path of the '449 Patent or provide a freestanding claim-construction opinion identifying the precise stage at which each characteristic of the fluid dispersion develops. Petitioner's questions therefore sought a new opinion through an ambiguous and assumptive description of the patent's structures, and Petitioner now presents the resulting qualified answer as a claim-scope concession.

Petitioner's characterization strips away the disputed assumptions and converts an acknowledgment of attempted downstream refinement into an opinion that the claimed fluid dispersion necessarily forms only downstream. The complete exchange at Exhibit 1046, 157:20–159:2 should therefore be excluded under FRE 401–403, 611(b), and 702–703. At a minimum, Petitioner should not be permitted to rely on its selected portion without the full context beginning at 157:20.

**D. Petitioner Cannot Convert Generalized, Out-of-Scope, or Qualified Answers into Affirmative Expert Opinions**

Petitioner cannot transform generalized, qualified, or out-of-scope cross-examination answers into affirmative opinions that Dr. Micklow neither disclosed nor was asked to develop through a properly framed analysis.

Dr. Micklow's declaration identified specified technical disagreements with Dr. White. Ex. 2002, ¶ 17. It did not independently construe claims, sponsor every argument in Patent Owner's Response, or map the patent's complete internal flow

path. Petitioner nevertheless relies on the resulting deposition excerpts to support substantive propositions concerning claim scope, consideration of the '449 Patent, and the location at which the claimed fluid dispersion forms. Paper 20, 2–4, 7.

The absence of those additional analyses is not a criticism of Dr. Micklow's competence or of the opinions he disclosed in his direct testimony declaration; it results from the scope and form of Petitioner's questions. The challenged excerpts should not be admitted as affirmative expert proof of propositions the questions did not fairly present.

## **V. CONCLUSION**

For the foregoing reasons, Patent Owner respectfully requests that the Board exclude Exhibit 1046 at 111:20–25, 115:15–18, 117:4–15, 157:20–159:2, and 200:14–16. Patent Owner further requests that the Board disregard the portions of Petitioner's Reply [Paper 20] at pages 2–4 and 7 that rely upon or characterize the excluded testimony.

Alternatively, should the Board decline to exclude any excerpt in its entirety, Patent Owner respectfully requests that the Board consider the complete surrounding testimony and disregard Petitioner's materially incomplete or misleading characterizations of the challenged exchanges.

Dated: July 9, 2026

Respectfully submitted,

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**CERTIFICATE OF SERVICE**

The undersigned hereby certifies that a copy of the foregoing Patent Owner's Motion To Exclude Evidence has been served in its entirety on July 9, 2026, via email directed to the following attorneys of record for Petitioner:

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