

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

FIRST QUALITY RETAIL SERVICES, LLC,
FIRST QUALITY CONSUMER PRODUCTS, LLC,
FIRST QUALITY PRODUCTS, LLC
FIRST QUALITY ENTERPRISES, LLC,

Petitioners,

v.

ESSITY HYGIENE AND HEALTH AB.

Patent Owner

CASE: IPR2024-01487

U.S. PATENT NO. 9,308,138

**SUPPLEMENTAL EXPERT DECLARATION OF DONALD SHELDON
REGARDING CLAIMS 1-5, 7-8, 20-22, AND 24-25 OF
U.S. PATENT NO. 9,308,138
(EX2004)**

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I. INTRODUCTION

1. I submit this supplemental declaration in connection with Patent Owner's Response in the *Inter Partes* Review IPR2024-01487 (the "IPR") of claims 1-5, 7-8, 20-22 and 24-25 ("challenged claims") of U.S. Patent No. 9,308,138 (the "'138 patent," Ex. 1001). I have been retained by Dechert LLP, counsel for Patent Owner Essity Hygiene and Health AB in this matter. I am being compensated for my time at my standard rate of \$400 per hour plus actual expenses. The opinions in this declaration are my own, and my compensation is not dependent in any way upon the outcome of the IPR of the '138 patent.

2. I am the same Donald Sheldon who submitted a declaration in connection with Patent Owner's Preliminary Response on February 20, 2025. I understand that, on May 16, 2025, the Patent Trial and Appeal Board ("Board") instituted First Quality's IPR. I stand by the opinions presented in my February 20, 2025 declaration, and I understand that declaration is being submitted to the Board as EX2001 in connection with Patent Owner's Response here. My *curriculum vitae* is attached as EX2002.

3. I provide this Supplemental Declaration to specifically address the points raised in the Board's May 16, 2025 Institution Decision. I will also address points arising from the August 6, 2025 deposition of First Quality's expert, Dr. Behnam Pourdeyhimi. I have studied the transcript of Dr. Pourdeyhimi's

deposition and believe that his testimony supports many of the opinions here and in my February 20, 2025 declaration.

II. PROFESSIONAL QUALIFICATIONS

4. I incorporate the recitation of my professional qualifications from EX2001, ¶¶2-17; *see also* EX2002. Further, I note that I have designed a number of absorbent products, including diapers, sanitary napkins and incontinence pads, over the past 50 years, many of which have been successfully launched in U.S. and international markets.

III. MATERIALS CONSIDERED

5. My analysis is based on my years of education, research, experience, and background, as well as my investigation and study of relevant materials for this declaration. When developing the opinions set forth herein, I was asked by counsel to assume the perspective of a person having ordinary skill in the art (“POSA”). In forming my opinions, in addition to the Petition, I reviewed and considered the materials identified in the list below as well as any additional materials cited in my Declaration, including the Board’s May 16, 2025 Institution Decision:

IPR2024-01487, U.S. Patent No. 9,308,138
Supplemental Declaration of Donald Sheldon EX2004

Exhibit	Description
1001	U.S. Patent No. 9,308,138 (Andersson)
1002	Expert Declaration of Dr. Behnam Pourdeyhimi Regarding Claims 1-5, 7-8, 20-22 and 24-25 of U.S. Patent No. 9,308,138
1003	File History of U.S. Patent No. 9,308,138
1004	International Patent Publication No. WO2009067059A1 (Bergstrom)
1005	U.S. Patent No. 9,066,837 (Kim)
1006	U.S. Patent No. 6,455,753 (Glaug)
1007	U.S. Patent No. 7,956,236 (Ponomarenko)
1008	Japanese Patent Publication Number JP 2008-284190 A (Nakazawa)
1009	C F White, Engineered structures for use in disposable incontinence products, 2003 (White 2003)
1010	J.R. Ajmeri and C.J. Ajmeri, Nonwoven personal hygiene materials and products, 2010 (Ajmeri)
1011	Bhupender S. Gupta, Nonwovens in Absorbent Materials, 2002 Exhibit 1011 (Gupta)
1012	Kirstin Kosemund et al., Safety evaluation of superabsorbent baby diapers, 2009 (Kosemund)
1014	Essity Hygiene and Health AB, Essity HMS North America Inc. v. First Quality Products, Inc. et al., Case No. 1:24-cv-00374, Complaint for Patent Infringement (D. Del. Mar. 22, 2024)
1015	U.S. Patent No. 7,923,597 (Ponomarenko)
1016	U.S. Patent Application Publication No. 2005/0267429A1 (Cohen)
1017	F. Wiesemann and R. Adam, Handbook of Medical Textiles, Chapter 14 - Absorbent products for personal health care and hygiene, 2011 (Wiesemann)
1018	Colin F. White, International Nonwovens Technical Conference, Developments in Absorbent Products and Their Impact on the Nonwovens Industry, 2000 (White 2000)
1019	European Patent Specification EP 0701805 B1(Yang)
2001	Expert Declaration of Donald Sheldon Regarding Claims 1-5, 7-8, 20-22, and 24-25 of U.S. Patent No. 9,308,138
2002	<i>Curriculum Vitae</i> of Donald Sheldon
2005	Transcript of the Deposition of Dr. Behnam Pourdeyhimi, August 6, 2025
2006	Brian S. Buckley, User perspectives, preferences and priorities relating to products for managing bladder and bowel dysfunctions, 233(I) J. ENG'G MED. 7-18 (2019) (Buckley 2019)

IV. THE LEVEL OF ORDINARY SKILL IN THE ART

6. As in EX2001, ¶¶19-21, I apply Petitioners' definition of a POSA:

A person of ordinary skill in the art ("POSITA") at the relevant times, would have had (1) a degree or certificate in chemical engineering, chemistry, paper engineering, materials science, biology or a related field; and (2) two to four years of work experience in product design and testing of disposable absorbent articles, such as diapers, sanitary napkins and incontinence pads. Less work experience may be compensated by a higher level of education, and vice versa.

7. I do not believe that Dr. Pourdeyhimi possesses or has ever possessed the level of experience necessary to qualify as a POSA. Among the other points defining a POSA, he must have "two to four years of work experience in product design and testing of disposable absorbent articles, such as diapers, sanitary napkins and incontinence pads." While a higher level of education may compensate for "less work experience," it is my understanding that a POSA by Petitioners' definition must have at least some work experience in the design of absorbent articles.

8. Based upon my understanding of Dr. Pourdeyhimi's work experience set forth in his Declaration, prior to the taking of his deposition I did not believe Dr. Pourdeyhimi had this level of experience. While he may have worked on materials used in absorbent articles, particularly nonwoven materials, there was nothing in the experience described in Dr. Pourdeyhimi's CV (in EX1002) to show that he worked on "product design" of actual articles such as diapers, sanitary

napkins or incontinence pads. At a minimum, all such absorbent articles would have a top sheet, a back sheet and an absorbent core.

9. At his deposition, Dr. Pourdeyhimi admitted without qualification that he has never worked on the design of an absorbent article having these basic features of all absorbent articles. See EX2005, Pourdeyhimi Deposition, 12:15-17. Without having ever worked on an absorbent product design, I do not believe Dr. Pourdeyhimi can credibly offer opinions on the product design of the absorbent articles described the '138 patent—nor any prior art reference at issue in this IPR—from the perspective of a POSA. As an analogy, it is like Dr. Pourdeyhimi is a professor in the field of choosing and testing materials for the seat or inside roof of a car, but the technology at issue involves the design of a car in total. That is, Dr. Pourdeyhimi may be very knowledgeable about how to optimize particular nonwoven materials, but he lacks the experience and knowledge in complete absorbent product design, which makes his opinions unreliable. Dr. Pourdeyhimi's failure to meet the definition of a POSA with even the minimum level of experience manifests itself in his failure to properly understand the teachings of the '138 patent and the prior art. Further, I have always believed his opinions to be conclusory and untethered to the practical realities of absorbent product design.

V. SUMMARY OF MY OPINIONS

10. My opinions that none of Petitioners' Grounds invalidates any claim of the '138 Patent are unchanged from EX2001.

11. First, it is my opinion that Ground I, alleging that certain claims, including claims 1, 3, 21-22, and 24-25, are anticipated by Bergstrom-'059 (Ex. 1004), does not establish anticipation, particularly of claim elements 1[e] and 1[h]. I have been informed that a dependent claim incorporates all the elements of the claims from which it depends. Because claims 3, 21-22, and 24-25 all depend from claim 1, these claims are also not anticipated.

12. Second, it is my opinion that Ground II, alleging that certain claims, including claims 1, 3-5, 20-22, and 24-25 are obvious in view of Nakazawa-'190 (Ex. 1008) in combination with Glaug-'753 (Ex. 1006), does not establish the obviousness of any claim, particularly claim elements 1[e] and 1[h]. Because claims 3-5, 20-22, and 24-25 all depend from claim 1, these claims are also not obvious.

13. Third, it is my opinion that Ground III, alleging that claim 7 is obvious in view of Nakazawa-'190 (Ex. 1008) in combination with Glaug-'753 (Ex. 1006) and Cohen-'429 (Ex. 1016), does not establish obviousness of claim 7, particularly elements 1[e] and 1[h] of claim 1 from which claim 7 depends.

14. Fourth, it is my opinion that Ground IV, alleging that certain claims, including claims 1-5, 7-8, 21-22, and 24-25 are obvious in view of Nakazawa-'190 (Ex. 1008) in combination with Ponomarenko-'236 (Ex. 1007), does not establish the obviousness of any claim, particularly claim elements 1[e] and 1[h]. Because claims 2-5, 7-8, 21-22, and 24-25 all depend from claim 1, these claims are also not obvious or anticipated.

15. Fifth, it is my opinion that Ground V, alleging that certain claims, including claims 1, 3-5, 21-22, and 24-25, are anticipated by Nakazawa-'190 (Ex. 1008), does not establish the anticipation of any claim, particularly of claim elements 1[e] and 1[h]. Because claims 3-5, 21-22, and 24-25 all depend from claim 1, these claims are also not obvious or anticipated.

VI. LEGAL STANDARDS FOR ANTICIPATION AND OBVIOUSNESS

16. I apply the same legal standards set forth in EX2001, ¶¶27-37. I further understand that claims are construed using the same claim construction standard that would be used to construe claims in a civil action, that claims are construed in accordance with the ordinary and customary meaning of such claims as understood by a POSA at the time of the invention, and that in construing claims, the Board must take into account the specification and prosecution history of the '138 Patent.

VII. SCIENTIFIC CONCEPTS RELEVANT TO THE '138 PATENT

17. I apply the scientific concepts set forth in EX2001, ¶¶38-72, to my opinions herein. I provide further opinions below in response to the Board's Institution Decision.

18. Nakazawa refers to prior art patent documents in its introduction, which have “grooves” that can move fluid longitudinally *See* Nakazawa (EX1008), [0007]. However, diffusion into the absorbent material in those prior art documents is “extremely slow” (*id.*, [0010]), detracting from fluid management and leading to sub-optimal fluid flow. In my opinion, Nakazawa does not overcome the general teaching in the art at that time that using holes or openings in the absorbent material is detrimental to fluid management in an absorbent article.

19. Dr. Pourdeyhimi uses the terms “acquisition,” “transport,” and “diffusion” interchangeably to refer to fluid flow in an absorbent article. This is incorrect and reflects Dr. Pourdeyhimi's lack of experience designing a complete absorbent product. For the purposes of my opinions, however, I will respond to Dr. Pourdeyhimi's opinions using his terminology.

20. Finally, products designed for feces management are designed very differently from those designed for fluid management, as set forth in my earlier declaration. *See* EX2001, ¶¶169-180. Typically, products designed for improved feces management, like Ponomarenko, manage fluid as a secondary function to

feces management. Indeed, the minimal discussion of fluid flow in Ponomarenko is limited to treating it like any other acquisition or (optionally) distribution layer in the prior art, not as a fluid flow control structure as claimed in the '138 Patent. Ponomarenko (EX1007), 7:8-19. That Dr. Pourdeyhimi finds the discussion of feces management “totally irrelevant” to his analysis (EX2005, 73:13-22) is a dramatic oversight that ignores the primary teaching of the reference and defies the way a POSA would view the reference. *See* Buckley 2019 (EX2006) at 11 (“For faecal incontinence, absorbency is less important than a product’s ability to contain stool, which will be affected by its mass and consistency as well as by flow rate.”).

VIII. CLAIM CONSTRUCTION

21. I understand there is an issue of claim construction regarding the term “perforated polymeric layer.” The use of this term in the '138 patent would be well understood by a POSA to have its ordinary meaning: “a polymeric layer that is pierced through with holes or apertures such that the layer allows the free flow of liquid bodily waste therethrough.” In order for the articles in the '138 patent to function for the intended purpose of improved fluid flow and prevention of side leakage, a POSA would know that a perforated polymeric layer as disclosed in the '138 patent would require holes sufficiently large for fluid to pass through it. *See, e.g.,* '138 Patent (EX1001), 3:29-49, 5:39-40 9:46-10:5, 12:32-46

22. When asked if he was aware of a disclosure in the '138 Patent that teaches that the perforated polymeric layer as claimed in the patent can be liquid impermeable, Dr. Pourdeyhimi answered "I don't believe so. . . if it's in contact with the top sheet, it doesn't make sense. Because the top sheet, you're trying to pass the fluid to the absorbent core, and if you put an impermeable between the top sheet and immediately absorbent core, then, obviously, that's not going to work." EX2005, 90:17-91:6. To Dr. Pourdeyhimi's own understanding, then, the invention of the '138 Patent only makes sense if the perforated polymeric layer has holes of sufficient size to allow fluid to pass into the absorbent core below it. This aligns with my opinion regarding the plain and ordinary meaning of perforated polymeric layer in the context of the '138 patent.

23. In reviewing the prosecution history of the '138 patent, Essity made clear that a perforated polymeric layer must allow fluid to pass through it. For example, Essity (in response to a prior-art rejection from the Examiner) argued that modifying a reference to include a first perforated polymeric layer would not work in that reference, because adding "holes, perforations or apertures" to such a layer "would allow liquid to escape from this layer." '138 Patent File History (EX1003) at 741. Similarly, Essity argued in response to a different rejection that a wicking barrier in a prior-art reference was not a first perforated polymeric layer because "other than by an opening 57 in the wicking barrier 60, fluid is prevented from

passing between central absorbent member 62 and outer absorbent member 56.”

’138 Patent File History (EX1003) at 1046:

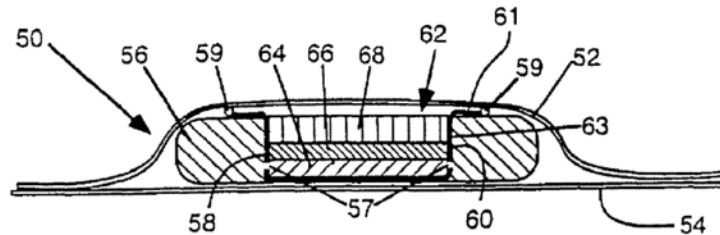


Figure 3A of Chen

24. In my opinion, Essity traversed the Examiner’s rejections by arguing that what the Examiner considered to be “perforated” materials were each not a “perforated polymeric layer” within the meaning of the ’138 Patent because such materials prevented fluid from passing through them. Essity made clear during prosecution that a “perforated polymeric layer” must allow fluid to flow through the perforations, consistent with that term’s ordinary meaning.

IX. OPINIONS REGARDING SPECIFIC GROUNDS FOR ALLEGED UNPATENTABILITY

A. Ground II: Claims 1, 3-5, 20-22, and 24-25 Are Not Obvious Over Nakazawa in view of Glaug

25. Following the order of presentation of the Grounds from the Board’s institution decision, I incorporate my opinions from EX2001, ¶¶135-160, and include my further opinions below.

26. Beginning at page 18 of its Institution Decision, the Board describes its preliminary conclusion that a POSA would be motivated to modify Nakazawa

by simply substituting the diffusion sheet in Nakazawa with the two-layer acquisition system in Glaug. I believe the Board has been misled by Dr. Pourdeyhimí's conclusory and unsupported opinions on these references. As discussed in my February 20, 2025 declaration (EX2001) and as further explained below, Nakazawa and Glaug expressly teach in opposite directions from each other such that POSA would never be motivated to even consider any combination of their teachings.

27. The Board states "using Glaug's fluid acquisition system or lower non-perforated layer in Nakazawa...would have involved use of a known technique to improve a similar device in the same way." Paper No. 8 at 19. Based on this logic from the Board, it appears to me that the Board believes that Glaug's purpose was to design some "technique" for a fluid acquisition system that would serve as an "improvement" over the prior art. There is no teaching whatsoever on this in Glaug, and I believe it was simply fabricated by Dr. Pourdeyhimí and Petitioners.

28. The basis for the Board's conclusion was its reliance on Petitioners' argument and Dr. Pourdeyhimí's opinion regarding Column 9, lines 17-40 of Glaug, specifically 9:30-34. See EX1002 (Pourdeyhimí Declaration), ¶¶189-191; Petition at 63. It seems that because of the use of adverbs "faster," "higher," "slower," and "lower," the Board may have been led to believe by Petitioners and

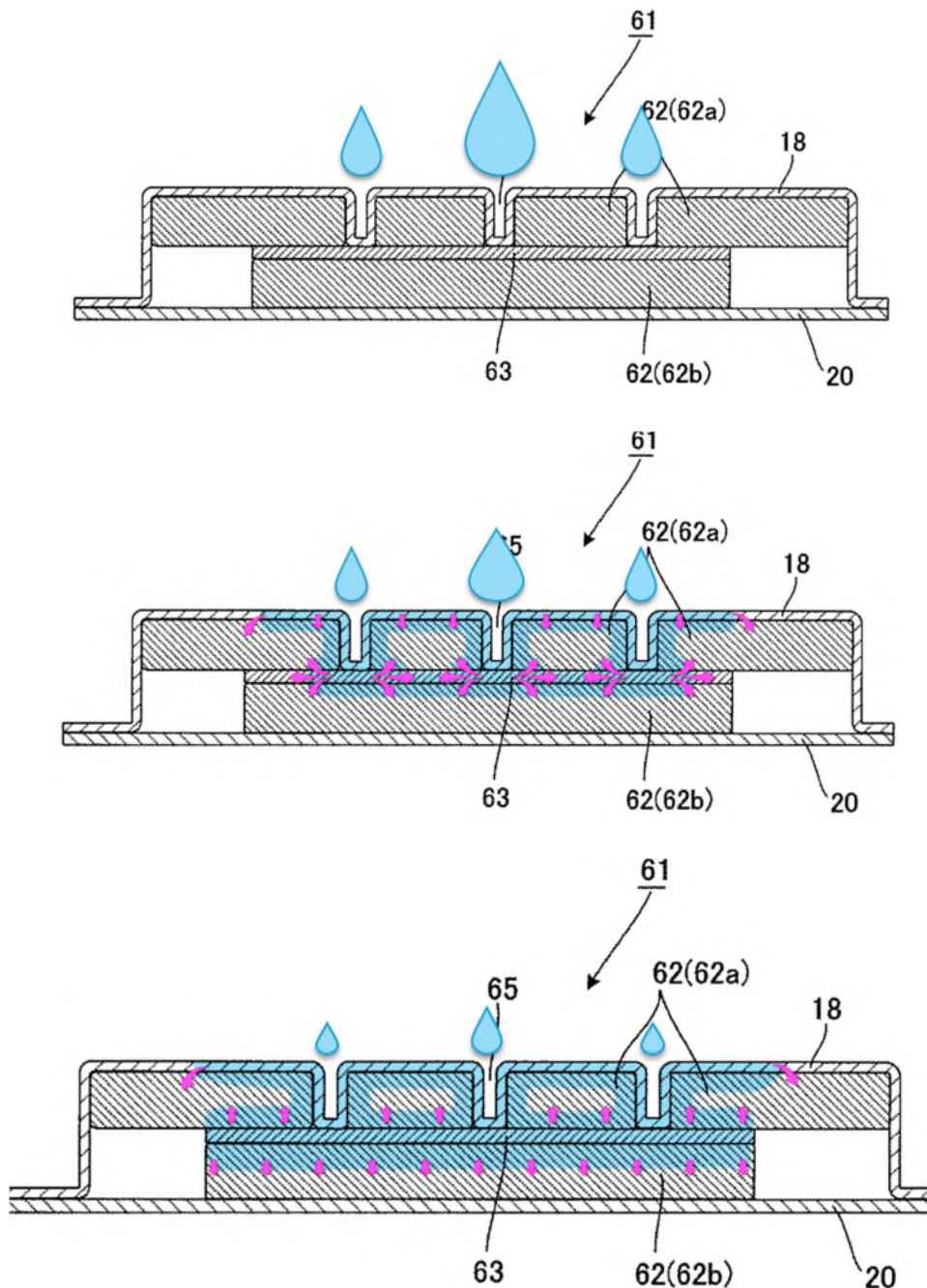
Dr. Pourdeyhimi that Glaug is describing some type of comparison of his alleged “fluid acquisition system” technique to other “techniques” in the prior art to show that his “technique” was an “improvement” because it resulted in “higher” and “faster” fluid flow. There is no support whatsoever for such a conclusion because Glaug makes no such comparison. Dr. Pourdeyhimi admitted without qualification at his deposition that these passages from Glaug do not even describe prior art. EX2005, 58:12-59:16. The adverbs have nothing to do with any prior art “techniques”—this passage in Glaug simply describes that fluid flows faster into the diaper than out of it. There is simply no support for the Board’s conclusion on motivation to combine Nakazawa and Glaug, because it appears to me that the primary “improvement” cited in the Petition was created from thin air by Petitioners and Dr. Pourdeyhimi.

29. The references themselves could not be clearer in how they expressly teach away from each other. At the beginning of Nakazawa, the inventor describes “conventional absorbent articles in which a diffusion layer is disposed between the top sheet and the absorbent material.” Nakazawa (EX1008), [0009]. This is effectively describing an arrangement like Glaug, which was published before Nakazawa and which has an acquisition system disposed between the topsheet and the absorbent material. See EX2001, ¶55. Nakazawa goes on to say that “conventional absorbent articles” with a diffusion sheet between the top sheet and

absorbent core do “not solve the problem of excretory fluid being unevenly distributed on the top sheet side and tending to flow back from the top sheet side.” Nakazawa (EX1008), [0009]. Nakazawa expressly distinguishes his design from old designs where the diffusion sheet or ADL is above, rather than below, the absorbent core, which is precisely the design of the article in Glaug. Nakazawa effectively shouts out loud—*don’t do Glaug*.

30. At pages 26-27 of its Institution Decision, the Board raises the question that I believe to be at the core of this case: does Nakazawa require promoting fluid flow in both Z-directions? The answer is emphatically yes—and Glaug expressly teaches away from it.

31. In the embodiment Petitioners rely on, Nakazawa teaches an absorbent article with a diffusion sheet between two absorbent cores and openings in the upper absorbent core, allowing fluid to pass through the holes to the diffusion sheet, to spread along the diffusion sheet in the X-Y plane, and to diffuse upward into the upper absorbent core and downward into the lower absorbent core. This orientation facilitates absorption both toward the wearer and away from the wearer, maximizing the absorption rate into both the upper and lower cores to help prevent leaks. See Nakazawa (EX1008), [0011]-[0012], [0031], [0073], [0075]. The flow of fluid is illustrated below:



32. In contrast, Glaug’s fluid-acquisition system is constructed “to manage, transport, accommodate, and/or direct high volumes and high flow rates of urine or other body fluid received from the top sheet target zone *into the absorbent core 36* at a rate that the core can handle, despite multiple insults of

such fluid.” Glaug (EX1006), 6:14-18. As such, because the single absorbent core in Glaug is below the fluid-acquisition system, this system is designed and intended to move fluid only away from the body in the -Z-direction and prevent the fluid from coming “out of the diaper through the top sheet.” Glaug (EX1006), 9:16-40. And Glaug’s invention requires **detering** fluid flow back toward the body. See Glaug (EX1006), cl. 1 (“...fluid is enabled to readily flow from said single layer top-sheet through said tapering apertures in said first acquisition layer and through said second acquisition layer into said core, but is deterred from flowing in the opposite direction through said apertures”).

33. Using all or part of Glaug’s fluid-acquisition system in place of Nakazawa’s diffusion sheet would be antithetical to the teachings of both references. Glaug’s fluid-acquisition system is a one-way fluid highway away from the body. Glaug (EX1006), 9:45-49. Meanwhile, the entire purpose of Nakazawa’s diffusion sheet in the Second Absorbent Article embodiment is to absorb fluid in the +Z-direction (at the back surface of the upper absorbent material) **and simultaneously** in the -Z-direction (at the top surface of the lower absorbent material). Nakazawa (EX1008), [0075].

34. A POSA confronted with the teachings of these references would have expected that replacing Nakazawa’s diffusion sheet with all or part of Glaug’s fluid-acquisition system would cause the fluid to quickly pass through the

acquisition system into the second absorbent material, reducing the rate of absorption at the back surface of the first absorbent material and causing leaks, rewet, and/or discomfort of the wearer due to inefficient fluid flow.

35. Thus, I respectfully submit that there is no basis for the Board's conclusion that POSA would have had a motivation to substitute Nakazawa's diffusion sheet with all or part of Glaug's fluid-acquisition system. As I described in my original Declaration, Nakazawa teaches the optional use of a hydrophilic sheet with a diffusion layer, but expressly teaches that the tissue layer should not cover the opening for fluid intake. EX2001, ¶¶140-141. In other words, Nakazawa teaches that the very combination proposed by Petitioners would impede permeation of fluid rather than promote it, defeating any purported motivation to combine. Even if, in some instances, Nakazawa's diffusion sheet "reduces liquid backflow" using a porous plastic film (*see, e.g.*, Nakazawa (EX1008), [0068]), Nakazawa teaches (and Dr. Pourdeyhimi agrees) that there still must be some fluid in the +Z-direction back toward the body for Nakazawa's invention to work. *See* Nakazawa (EX1008), [0011]-[0012], [0031], [0073], [0075]; EX2005, 64:6-69:14. And there is still no motivation to add another layer between the diffusion sheet and lower absorbent core as Petitioners suggest, because Nakazawa expressly teaches that Petitioners' suggestion for adding such a layer would not work. *See* Nakazawa (EX1008), [0085].

B. Ground IV: Claims 1-5, 20-22, and 24-25 Are Not Obvious Over Nakazawa in View of Ponomarenko

36. I incorporate my opinions from EX2001, ¶¶161-186, and include my further opinions below.

37. Ponomarenko's approach to fluid management is very similar to Glaug's, in that fluid flow is only permitted in the -Z-direction away from the body of the wearer. For example, Ponomarenko "facilitates the absorption of the fluid by the absorbent core **below**." Ponomarenko (EX1007), 7:8-19. The stated improvements of Ponomarenko are "improved feces isolation, reduced rewet and improved feces immobilization," such that flow of feces or fluid back toward the body are discouraged. *See id.*, 1:59-64, 1:40-41 (optional second topsheet "further allows immobilization of the feces and dewatering of the feces by the absorbent core **underneath**").

38. The fluid management capabilities of Ponomarenko are the same as those found in various prior-art acquisition layers; Ponomarenko's improvements are only related to feces isolation. As such, I strongly disagree with Dr. Pourdeyhimi's opinion that the feces management capabilities of Ponomarenko are "irrelevant" to the obviousness inquiry. A POSA looking to design an improved fluid management system would never look to a feces-management reference like Ponomarenko, which treats fluid management as a distant afterthought.

39. Further, even if a POSA were motivated to try to combine Nakazawa with Ponomarenko, a POSA would not have expected such a combination to work. Rather, a POSA would have expected that replacing Nakazawa's diffusion sheet with Ponomarenko's sublayer would cause the fluid to quickly pass through the acquisition system into the second absorbent material, reducing the rate of absorption at the back surface of the first absorbent material and causing leaks, rewet, and/or discomfort of the wearer due to inefficient fluid flow, as it would with the combination of Nakazawa and Glaug.

C. Ground V: Claims 1, 3-5, 21-22, and 24-25 Are Not Anticipated by Nakazawa

40. I incorporate my opinions from EX2001, ¶¶193-200, and include my further opinions below.

41. I share the Board's "concern" regarding Petitioners' and Dr. Pourdeyhim's misleading drawings and statements regarding Nakazawa's hydrophilic sheet. As I previously stated, Dr. Pourdeyhim only refers to Nakazawa teaching that the back and sides of the lower absorbent core are wrapped in the hydrophilic sheet, which by definition cannot be a layer of a fluid flow control structure.

42. Further, even if the lower absorbent core were wrapped entirely in the hydrophilic sheet, Nakazawa teaches that there should be no hydrophilic sheet

below the openings in the upper absorbent core. This is because the hydrophilic sheet would impede permeation of fluid through the absorbent article. Nakazawa (EX1008), [0085]. A POSA faced with this teaching would never consider Nakazawa's diffusion sheet and this hydrophilic sheet to form a fluid flow control structure because the layers would have opposite functions. That is, the diffusion sheet would be promoting fluid flow, while the hydrophilic sheet would be impeding it.

D. Ground I: Claims 1, 3, 21-22, and 24-25 Are Not Anticipated by Bergstrom

43. I incorporate my opinions from EX2001, ¶¶107-134, and include my further opinions below.

44. The plain and ordinary meaning of perforated polymeric layer does not encompass a layer that is liquid impermeable. Perforations that only allow gas to permeate through them, but not fluid, would clearly not be perforations in a “perforated polymeric layer” in the context of the '138 patent. Bergstrom itself distinguishes between gas-porous films like backsheets and liquid-porous films like topsheets. *Compare* Bergstrom (EX1004), 10:31-11:6 *with id.*, 11:8-12. In my opinion, forming element 60 is a layer that functions like a stiff, impermeable backsheet within the absorbent article described in Bergstrom. While backsheet 102 “should be liquid-impermeable,” it “is desirably gas-permeable to allow air

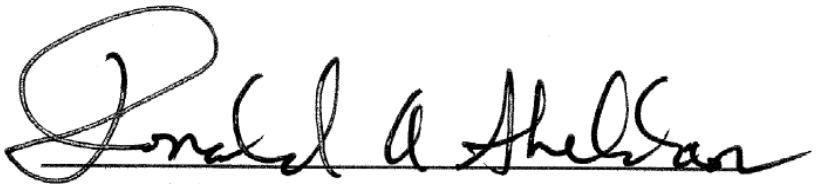
and vapour to pass in and out of the article so that the warm, damp conditions which can arise in a diaper are reduced.” See EX1004-Bergstrom, 11:8-12. Thus, as with forming element 60, backsheet 102 can be made from “porous polymeric films” while still maintaining liquid impermeability. Given this characteristic, forming element 60 is a barrier to fluid flow, and would lead to side-edge leakage, the very problem the ’138 Patent solved in the art.

X. CONCLUSION

45. The Challenged Claims of the ’138 Patent are not anticipated or obvious in view of the Grounds set forth by the Petition and the Pourdeyhim Declaration.

46. I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and that these statements were made with knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code.

Date: August 28, 2025

A handwritten signature in black ink, reading "Donald A. Sheldon". The signature is written in a cursive style with a large, looping initial "D".