

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Dr. Squatch LLC

Petitioner

v.

The Procter & Gamble Company

Patent Owner

Case IPR2024-01498

U.S. Patent No. 11,844,752

PATENT OWNER'S RESPONSE

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EXHIBIT LIST

Exhibit No.	Description
Ex. 2001	File History of the '752 Patent (excluding copies of Foreign References)
Ex. 2002	<i>Intentionally Omitted</i>
Ex. 2003	Mayo Clinic, <i>Zinc Oxide (Topical Application Route)</i> , https://www.mayoclinic.org/drugs-supplements/zinc-oxide-topical-application-route/description/drg-20075525
Ex. 2004	Wayback Machine, Mayo Clinic, <i>Zinc Oxide (Topical Application Route)</i> , https://web.archive.org/web/20150102193922/https://www.mayoclinic.org/drugs-supplements/zinc-oxide-topical-application-route/side-effects/drg-20075525?p=1 (archived Jan. 2, 2015)
Ex. 2005	U.S. Patent No. 10,966,915
Ex. 2006	U.S. Patent No. 10,543,164
Ex. 2007	International Publ. No. WO 99/21528
Ex. 2008	Notice of Allowance of '647 Patent
Ex. 2009	<i>Intentionally Omitted</i>
Ex. 2010	<i>Intentionally Omitted</i>
Ex. 2011	Declaration of Robert Lochhead, Ph.D.
Ex. 2012	Deposition Transcript of Dr. Michniak-Kohn (April 17, 2025)
Ex. 2013	CeraVe, <i>Products Formulated with Zinc Oxide</i> , available at https://www.cerave.com/skincare/zinc-oxide#:~:text=Zinc%20oxide%20sunscreen%20works%20by,active%20ingredients%20in%20chemical%20sunscreens (last accessed May 1, 2025).

Ex. 2014	Nivea, <i>Deodorants vs. Antiperspirant: What's the Difference?</i> , available at https://www.nivea.in/advice/deodorant-vs-antiperspirant (last accessed May 1, 2025).
Ex. 2015	Dove, <i>What's The Difference Between Deodorant & Antiperspirant?</i> , available at https://www.dove.com/us/en/stories/tips-and-how-to/sweating-tips/antiperspirant-vs-deodorant-what-is-the-difference.html#:~:text=The%20key%20difference%20is%20the,yo u%20fresh%20throughout%20the%20day (last accessed May 1, 2025).
Ex. 2016	Secret, <i>What is the difference between an antiperspirant and a deodorant?</i> , available at https://secret.com/en-us/articles/antiperspirants-vs-deodorants-whats-the-difference (last accessed May 1, 2025).
Ex. 2017	Dr. Squatch, <i>WTF Is The Difference Between Antiperspirant and Deodorant?</i> , available at https://www.drsquatch.com/blogs/all-blog-posts/antiperspirant-and-deodorant (last accessed May 1, 2025).
Ex. 2018	<i>Intentionally Omitted</i>
Ex. 2019	DIN 51 579 Needle Penetration Test Standard (1965)
Ex. 2020	<i>Curriculum vitae</i> of Dr. Robert Lochhead

All emphasis has been added and all internal citations have been omitted unless otherwise indicated.

I. INTRODUCTION

P&G identified a gap in the market: Modern consumers sought natural, aluminum-free, silicone-free deodorants with an underarm-friendly feel. However, then-available, natural deodorants were too hard, too brittle, and/or too greasy, leading to consumer discomfort and frustration. P&G spent years carefully developing its aluminum-free formulations to meet consumer-desired properties as to drag, glide, hardness, skin-feel, and irritation, ultimately inventing and creating the deodorant stick described and claimed in U.S. Patent No. 11,844,752 (“the ’752 Patent”).

Petitioner Dr. Squatch seeks to cash in on P&G’s success at meeting consumer needs in the natural aluminum-free deodorant space, advancing invalidity challenges centered around deficient and non-enabling primary references, Lesniak and Native, and asserting references that do not qualify as prior art, Squatch and Sturgis.

Petitioner’s Lesniak-based grounds suffer from numerous defects:

- *First*, Lesniak does not disclose the claimed “deodorant stick” because the reference is explicitly tailored to high zinc-oxide concentration sunscreens and diaper creams; its passing reference to an “antiperspirant” would have been of no moment to a POSA.
- *Second*, if Lesniak’s “antiperspirant” is considered, it dooms Petitioner’s Lesniak-based challenges because a POSA would have

understood that an “antiperspirant” contains aluminum, and the ’752 Patent explicitly excludes aluminum from the claimed compositions.

- *Third*, Lesniak fails to enable any purported deodorant stick due to its conceded stability issues.
- *Fourth*, Petitioner does not provide sufficient reasoning as to why a POSA would have been motivated to combine the teachings of Lesniak regarding natural compositions with the teachings of Bianchi-254 relating to non-natural compositions containing 20-50% volatile silicones.
- *Fifth*, and most devastating of all, Petitioner fails to provide *any reference whatsoever* that discloses any stick composition within the hardness range claimed by the ’752 Patent. Petitioner’s reliance on Bianchi-254 for this limitation is based on a fundamental misapprehension of the different hardness test used in Bianchi-254 as compared to that used in the ’752 Patent; in fact, Bianchi-254’s disclosed hardness range is *significantly harder* than the claimed hardness range of the ’752 Patent claims. This deficiency is compounded by Petitioner’s failure to provide any reason why a POSA would have reformulated Lesniak’s compositions to

incorporate Bianchi-254's (wholly inapt) hardness values to reach the limitations of the claims, in view of the fact that Bianchi-254's much harder stick is specific to aluminum- and silicone-based sticks.

- *Sixth*, Petitioner does not plausibly explain why a POSA would have been motivated to reformulate Lesniak to include Bianchi-254's structurant, stearyl alcohol, particularly in view of Petitioner's contention that Lesniak alone is a complete deodorant stick that did not require additional ingredients, and because Lesniak's disclosed formulas were already sensitive to small changes in ingredients.
- *Seventh*, Petitioner does not provide sufficient motivation to pick magnesium hydroxide out of Phinney's multi-ingredient invention and combine it with Lesniak, because Petitioner fails to (i) sufficiently explain *why* a POSA would have been motivated to reformulate Lesniak in the first place; (ii) justify its hindsight-based magnesium hydroxide plucking; and (iii) provide any support for *how* a POSA would have made this proffered combination with any reasonable expectation of success.
- And, *eighth*, Petitioner fails to explain why a POSA would have been motivated to completely reformulate Lesniak to include/remove certain additional ingredients, or would have had

any reasonable expectation of success, specifically as it relates to triethyl citrate, starches, and arrowroot powder.

Petitioner's Native-based grounds fare no better:

- Petitioner admits Native is a list of ingredients for a natural, aluminum-free deodorant stick that received rave reviews, and offers no reason a POSA would seek to modify Native at all, let alone combine Native with any of Petitioner's secondary references. As one example, Petitioner fails to show that a POSA seeking to modify Native's natural ingredients (for some reason that has not been established) would look to Bianchi-254's aluminum-containing and volatile-silicone-based antiperspirant.
- Petitioner again fails to provide *any reference* that discloses the claimed hardness range: Native does not mention hardness, and Petitioner's combination with Bianchi-254 suffers from the same deficiencies as in Petitioner's Lesniak-based combinations: Bianchi-254's hardness values are *significantly harder* than those of the '752 Patent claims.
- Petitioner also does not provide sufficient motivation to combine Native with the teachings of the Easy Homemade blog, failing to sufficiently explain why a POSA would have looked to, or even

found, the informal blogpost in the first instance to completely reformulate Native's successful commercial deodorant product, or how a POSA would have actually done so with any reasonable expectation of success.

- And for additional claim limitations involving triethyl citrate, sunflower seed oil, and starch, Petitioner's challenges evidence the same cherry picking and hindsight bias as its Lesniak-based arguments.

Finally, Petitioner's Squatch-Sturgis combination should not be considered because neither reference qualifies as prior art.

For all of these reasons, explained in greater detail below, P&G respectfully requests a determination that the claims of the '752 Patent are not unpatentable.

II. THE '752 PATENT

A. Overview of the '752 Patent

The '752 Patent describes and claims novel "deodorant compositions and methods relating thereto." (Ex. 1001 at 1:5-6.) The inventors discovered then-available aluminum-free, natural deodorant sticks had significant drawbacks: they were too hard, too greasy, and did not provide the desired consistency and feel sought by consumers. Thus, while these products incorporated "consumer preferred natural ingredients" they did not provide the desired "good glide, non-sticky, and

non-greasy application.” (*Id.* at 1:10-21, 2:66-67.) The inventors posit this was because these natural sticks typically used “natural oils, such as coconut oil, [that] bring a large portion of wax with them, often making the resulting deodorant sticks too hard to meet a more preferable product application for both shaven and unshaven underarms.” (*Id.* at 1:16-21, 2:58-3:4). And, natural oils “are also often undesirably greasy due to the non-volatile nature.” (*Id.* at 1:20-21). Looking at then-available natural deodorant stick products, the inventors concluded “there remains a challenge to formulate an aluminum-free, mostly silicone-free deodorant stick that is not too hard.” (*Id.* at 1:22-24.)

To illustrate this challenge, the specification provides two comparative formulas of products: Comparative Formula 1 “has 34.15% liquid triglyceride, along with a number of structurants, resulting in a very hard stick” that “does not necessarily provide a good consumer experience when used”; Comparative Formula 2 used even higher amounts of structurants, “resulting in a harder stick with an even lower hardness score.” (*Id.* at 2:62-3:4.)

By contrast, the deodorants of the ’752 Patent were able to address the challenge presented: they employ “consumer-preferred natural ingredients” while also maintaining “higher hardness scores, meaning they are softer products.” (*Id.* at 3:4-7.) Specifically, the ’752 Patent describes and claims natural, aluminum-free and silicone-free deodorant sticks “with a hardness from about 80 mm*10 to about

140 mm*10,” where this hardness range is determined by the disclosed test method that “[e]nsure[s] the total weight of the shaft and needle is 50 ± 0.2 grams when the shaft is in free fall.” (*Id.* at 3:40-48, 12:7-8; *see also* Ex. 2011 at ¶¶ 24-25.)

With the above-mentioned specific features, the formulas described and claimed in the ’752 Patent are thus, for the first time, “able to comprise consumer-perceived natural ingredients, while offering a pleasant consumer experience in terms of its hardness.” (*Id.* at 3:48-51.)

B. Person of Ordinary Skill in The Art

Petitioner states that a person having ordinary skill in the art (“POSA”) as of the claimed priority date “would have (1) at least a B.S. or equivalent degree; and (2) at least two years of experience in cosmetics formulations.” (Petition at 16.) For purposes of this IPR proceeding only, P&G does not dispute this definition.

III. CLAIM CONSTRUCTION

Claim terms are to be construed in accordance with the standard set forth in *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005). But “[o]nly terms which are in controversy need to be construed, and then only to the extent necessary to resolve the controversy and material to the decision.” *Facebook, Inc. v. Sound View Innovations, LLC*, IPR2017-01005, Paper No. 13 at 6 (P.T.A.B. Sept. 1, 2017).

Here, the preambles reciting “a deodorant stick” are limiting. While each of Petitioner’s challenges fail for other independent reasons, Petitioner’s Lesniak-based

challenges also fail because Lesniak does not adequately disclose a “deodorant stick” for the reasons discussed in more detail below.

A preamble limits the invention if “it recites essential structure or steps, or if it is necessary to give life, meaning, and vitality to the claim.” *Catalina Mktg. Int’l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002). A preamble may “act as a necessary component of the claimed invention” where, as here, “limitations in the body of the claim rely upon and derive antecedent basis from the preamble.” *Eaton Corp. v. Rockwell Int’l Corp.*, 323 F.3d 1332, 1339 (Fed. Cir. 2003); *see also Bio-Rad Laby’s., Inc. v. 10X Genomics Inc.*, 967 F.3d 1353, 1371 (Fed. Cir. 2020). The Federal Circuit “ha[s] repeatedly held a preamble limiting when it serves as antecedent basis for a term appearing in the body of a claim.” *In re Fought*, 941 F.3d 1175, 1178 (Fed. Cir. 2019) (citing cases).

The preambles of the ’752 Patent’s independent claims recite “A deodorant stick comprising.” Later limitations in the independent claims rely on the preamble’s recitation of “a deodorant stick” for antecedent basis, claiming, for example, “said stick being free of an aluminum salt,” “said stick” having a particular hardness range, and that “the deodorant stick is anhydrous and is substantially free of silicones.” (’752 at cl. 1, 15, 18, 19.)

1. A deodorant stick comprising:
 a. at least one antimicrobial; and
 b. a structurant that is stearyl alcohol;
 said stick being free of an aluminum salt; and
 said stick having a hardness from about 80 mm*10 to about 140 mm*10, as measured by penetration with ASTM D-1321 needle;
 wherein the deodorant stick is anhydrous and is substantially free of silicones.

18. A deodorant stick comprising:
 a. at least about 25% caprylic/capric triglyceride;
 b. a starch;
 c. stearyl alcohol;
 d. magnesium hydroxide;
 e. shea butter;
 f. coconut oil;
 g. triethyl citrate; and
 h. sunflower seed oil;
 said deodorant stick being free of an aluminum salt; and
 wherein said stick has a hardness from about 80 mm*10 to about 140 mm*10, as measured by penetration with ASTM D-1321 needle.

15. A deodorant stick comprising:
 a. at least about 25% by weight liquid triglyceride;
 b. a starch;
 c. stearyl alcohol;
 d. magnesium hydroxide;
 e. shea butter;
 f. coconut oil;
 g. triethyl citrate; and
 h. sunflower seed oil;
 said deodorant stick being free of an aluminum salt; and
 wherein said stick has a hardness from about 80 mm*10 to about 140 mm*10, as measured by penetration with ASTM D-1321 needle.

19. A deodorant stick comprising:
 a. at least about 25% of a triglyceride;
 b. a starch;
 c. stearyl alcohol;
 d. magnesium hydroxide;
 e. shea butter;
 f. coconut oil;
 g. triethyl citrate; and
 h. sunflower seed oil;
 said deodorant stick being free of an aluminum salt; and
 wherein said stick has a hardness from about 80 mm*10 to about 140 mm*10, as measured by penetration with ASTM D-1321 needle.

Dependent claims also rely on the independent claims' preambles to define the invention and provide antecedent basis, reciting for example in claims 2-5 limitations for "the deodorant stick," and in claim 5, limitations for "the stick." ('752 at cl. 2-5.)

The Federal Circuit and the Board have found the preamble limiting in similar situations. *See, e.g., Shoes by Firebug LLC v. Stride Rite Children's Group, LLC*, 962 F.3d 1362, 1365 (Fed. Cir. 2020) (finding the preamble, "[a]n internally illuminated *textile footwear* comprises," limited the invention to "textile footwear" where the claim later relied on the preamble's use of "footwear" for antecedent basis, reciting "the illumination system being housed within *the footwear*"); *C.W. Zumbiel*

Co. v. Kappos, 702 F.3d 1371, 1385 (Fed. Cir. 2012) (“containers” are a limitation where claim body relied on preamble’s recitation of “a plurality of containers,” stating “the preamble constitutes a limitation when the claim(s) depend on it for antecedent basis”); *Palo Alto Networks, Inc. v. BT Americas Inc.*, 2024 WL 4709942, at *8-9 (P.T.A.B. 2024). So too here. Accordingly, each claim’s preamble “deodorant stick” should be construed as a limitation of the claim.

IV. BRIEF OVERVIEW OF THE ASSERTED PRIOR ART

A. References Introduced in Lesniak-Based Grounds (Grounds 1-4)

Lesniak. Lesniak describes “natural” compositions relating to “sunscreen or[] diaper cream” with high zinc oxide content. (*See, e.g.*, Ex. 1003 at 4:61-67, cl. 1, Table 2.) As a POSA would have appreciated, the compositions disclosed in Lesniak are anhydrous, structured compositions comprising a network of crystals which physically trap liquid in their interstices. (Ex. 2011 at ¶ 33.) A POSA would have understood that the liquid carrier system in Lesniak, as relied on by Petitioner, is primarily triglyceride-based. (*Id.*) Lesniak does not disclose deodorant sticks, and mentions antiperspirants only in passing without specifying any form. The reference contains just one example of a composition in the form of a stick (Example 6), and it is a sunscreen stick. (*See* Ex. 1003 at 15:7-45, Table 7.) Notably, nearly all of the compositions disclosed and formulated in Lesniak failed stability testing. (*See id.* at Table 2.)

Bianchi-254. Bianchi-254 describes antiperspirant compositions including high amounts of volatile silicone and aluminum salt complexes. (*See* Ex. 1008 at cl. 1.) Bianchi-254's anhydrous, non-natural compositions are chemically and structurally different from the natural compositions of Lesniak (and also Native, described below). (Ex. 2011 at ¶ 36.) Bianchi-254 discloses hardness values for its compositions as measured using the DIN 51-579 needle penetration testing method driven by a total weight of 100g. (*Id.*; Ex. 1008 at [0117], Table 6.)

Phinney. Phinney describes deodorant formulations comprising, together, zinc hydroxide, magnesium hydroxide, and potassium chloride/sulfate. (*E.g.*, Ex. 1004 at 4:45-52.) Phinney's stick differs from Lesniak's: it is a deodorant whereas Lesniak's only stick disclosure is a sunscreen, and also Phinney employs a different base and different active ingredients than Lesniak's stick. (Ex. 2011 at ¶ 34.) Phinney is not an anhydrous semisolid with a liquid triglyceride carrier (like Lesniak's sunscreen stick), but rather is a polyol-based sodium stearate gel stick comprising up to 20% water. (*Id.*; Ex 1004 at 4:11-41.) Additionally, whereas Lesniak's active ingredients comprise zinc oxide, Phinney's active ingredients comprise zinc hydroxide and magnesium hydroxide. (Ex. 1004 at 4:47-51, cls. 1, 7.) Phinney offers no guidance to a POSA on how the POSA could have adapted any of its teachings to an anhydrous stick with a primarily triglyceride-based carrier system. (Ex. 2011 at ¶ 35.)

Anconi. Anconi describes and claims antiperspirant compositions comprising zinc salts. (Ex. 1057.) Anconi provides a laundry list of ingredients that can be included to purportedly provide “antibacterial and deodorant properties,” including triethyl citrate. (*Id.* at [0027].) Anconi warns that “[s]ticks and solids are really complex chemical systems requiring a balance of ingredients designed to make the most of several performance factors including payout, slip or lubricity, chemical stability, softening temperature, and of course, efficacy.” (*Id.* at [0052]; Ex. 2011 at ¶ 40.)

Easy Homemade. Easy Homemade is a printout from the Wayback Machine of a blog post by an apparent deodorant amateur/hobbyist, with no indicia of reliability, accessibility, or significance to a POSA. (Ex. 1009.) The blogger purports to melt premade, baking-soda-free deodorants and then add arrowroot powder and magnesium hydroxide. (Ex. 2011 at ¶ 38.)

B. References Introduced in Native-Based Grounds (Grounds 5-8)

Native. The Native exhibit is a Wayback Machine printout of the former website for the Native company, purporting to describe a list of ingredients contained in Native’s aluminum-free, natural deodorant formula from 2016. (*See* Ex. 1007.) Native shows several positive reviews, and no negative reviews, of the Native product as it existed at that time. (*Id.* at 8, 17; Ex. 2011 at ¶ 37.)

Stoia. Stoia is a report that reviews studies relating to cosmeceutical and phytopharmaceutical potency of sunflower seed oil. (Ex. 1058.) Stoia does not address the use of sunflower seed oil in deodorant sticks. (*Id.*; Ex. 2011 at ¶ 41.)

Millet. Millet describes a deodorant composition “based on bicarbonate salt,” (Ex. 1044 at [0001]), teaching that sodium bicarbonate in a deodorant is “complicated by its incompatibility with many raw materials, in particular when it must be formulated in solid or semi-solid anhydrous compositions having good cosmetic properties.” (*Id.* at [0003].) Millet provides only two example compositions, neither of which is a stick. (*Id.* at [0047]-[0055]; Ex. 2011 at ¶ 39.)

C. References in Squatch-Sturgis Ground (Ground 9)

Squatch. Squatch is an employee declaration purporting to show images of deodorants from the Dr. Squatch website in November 2020. But Squatch does not depict those deodorant products as actually available at that time. (Ex. 1059 at 2-3; Ex. 2011 at ¶ 42.)

Sturgis. Sturgis (Ex. 1073) was filed on June 28, 2018, published on January 3, 2019, and later issued as U.S. Patent No. 10,905,647.

V. PETITIONER’S LESNIAK-BASED GROUNDS ARE UNCONVINCING

Petitioner’s Lesniak-based grounds fail to render obvious the challenged claims. In these grounds, Petitioner first attempts to combine Lesniak with Bianchi-254 (Ground 1), then adds Phinney (Ground 2), then Anconi (Ground 3), and then

Easy Homemade (Ground 4). These combinations are unsupportable on both the facts and the law, for the independent reasons discussed below.

A. Lesniak Does Not Disclose a “Deodorant Stick.”
(Grounds 1-4: All Claims 1-19)

Lesniak does not disclose a “deodorant stick,” as required by the preamble of every independent claim. Lesniak embodies sunscreen and diaper cream compositions containing high concentrations of zinc oxide. Petitioner tries to bridge this gap by focusing on a single fleeting reference to “antiperspirant” in Lesniak, contending that the mere mention of an “antiperspirant” amounts to a disclosure of the ’752 Patent’s claimed “deodorant stick.” Not so. A POSA would not have credited Lesniak as an “antiperspirant” reference with this limited disclosure that is entirely out of place in the reference as a whole. And in any event, Lesniak fails to enable any purported deodorant stick in view of the instability of the compositions it does disclose. (Ex. 2011 at ¶¶ 56-69.)

1. Lesniak Discloses Sunscreens and Diaper Creams, Not Deodorant Sticks.

Lesniak is a laundry-list reference disclosing numerous and varied combinations and concentrations of ingredients for “natural” sunscreen and diaper cream compositions.

Lesniak describes twelve different compositions of sunscreens, ten of which Lesniak treats as comparative examples:

TABLE 2												
Sunscreens.												
Composition#	Weight %											
	1*	2*	3*	4*	5*	6*	7*	8	9*	10*	11	
Zinc Oxide	20	20	20	20	20	20	20	20	20	20	20	
Sunflower oil	57	30	10	10	10	10	10	10	10	10	12.5	
Caprylic/Capric Triglyceride	5	35	55	53	53	54	54	53	53	50	52	
Beeswax	13	15	15	17	17	15	15	15	15	15	13.5	
Shea butter	5	0	0	0	0	0	0	0	0	0	0	
CastorWax MP80 hydrogenated castor oil	0	0	0	0	0	0	0	2	0	0	2	
Tapioca starch	0	0	0	0	0	0	1	0	0	0	0	
Cetyl Alcohol	0	0	0	0	0	0	0	0	0	2	0	
Thickener silica	0	0	0	0	0	1	0	0	0	0	0	
Natural jelly SP511	0	0	0	0	0	0	0	0	0	5	0	
Total	100	100	100	100	100	100	100	100	100	100	100	
Freeze/thaw stability	F/T 3	F/T 3	F/T 3	F/T 3	F/T 3	F/T 3	F/T 3	F/T 3	F/T 3	F/T 3	F/T 3	
High temp. stability (49° C.)	Fail	Fail	Fail	Fail	Fail	Fail	Fail	Pass	Fail	Fail	Pass	
"Whitening" acceptability	No	No	Yes	Yes	Yes	No	No	Yes	No	No	Yes	
Dispensing acceptability	No	No	No	No	No	No	No	Yes	No	No	Yes	
Greasiness/after-feel acceptability	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	

*denotes comparative composition.

TABLE 3		
Water activity of sunscreen compositions		
Composition#	11 (weight %) 12 (weight %)	
Zinc Oxide	20	20
Sunflower oil	12.5	12.1
Caprylic/Capric Triglyceride	52	52
Beeswax	13.5	13.5

TABLE 3-continued		
Water activity of sunscreen compositions		
Composition#	11 (weight %) 12 (weight %)	
CastorWax MP80 hydrogenated castor oil	2	2
Fragrance (natural lavender vanilla fragrance)	0	0.40
Total	100	100
Water activity		
Sample #1	0.262	0.306
Sample #2	0.265	0.309
Sample #3	0.268	0.304

(*Id.* at Tables 2, 3; *see also id.* at 13:23-45, Table 4.) And Lesniak discloses and analyzes six different diaper cream formulations:

TABLE 5						
Diaper cream formulations						
Composition#	A	B	C	D	E	F
Weight %						
Zinc Oxide	12	12	12	12	12	12
Sunflower oil	12.5	12.5	12.5	12.5	12.49	20.49
Caprylic/Capric Triglyceride	60	55	55	52	52	52
Coconut oil	0	0	5	5	5	0
Beeswax	13.5	13.5	13.5	13.5	13.5	13.5
Shea butter	0	5	0	3	3	0
CastorWax MP80 hydrogenated castor oil	2	2	2	2	2	2
Vitamin E	0	0	0	0	0.01	0.01
Total	100	100	100	100	100	100

(*Id.* at Table 5.) Lesniak’s claims recite a “personal care composition selected from a sunscreen or a diaper cream,” with later claims also limiting the invention to sunscreens and diaper creams. (*Id.* at cls. 1, 12, 14, 19.)

Each of the Lesniak compositions contain large amounts of zinc oxide (up to 20%), which serves as a protective barrier to protect the skin from the sun or other irritants. (*See, e.g.*, Ex. 1003 at Tables 2-3, cl. 13.) As both a POSA and the common consumer would have understood, zinc oxide is an active ingredient commonly found in sunscreens to prevent sun damage. (*Id.*; *see also* Ex. 2011 at ¶ 47; Ex. 2013; 21 C.F.R. 352 (FDA Sunscreen Monograph).) And in the case of diaper cream, any POSA or caregiver would have appreciated that zinc oxide is present to prevent diaper rash. (*See* Ex. 2011 at ¶ 47; Ex. 2003 (“Zinc oxide topical cream is used to treat and prevent diaper rash. It is also used to protect skin from being irritated and wet caused by diaper use.”); Ex. 2004.)

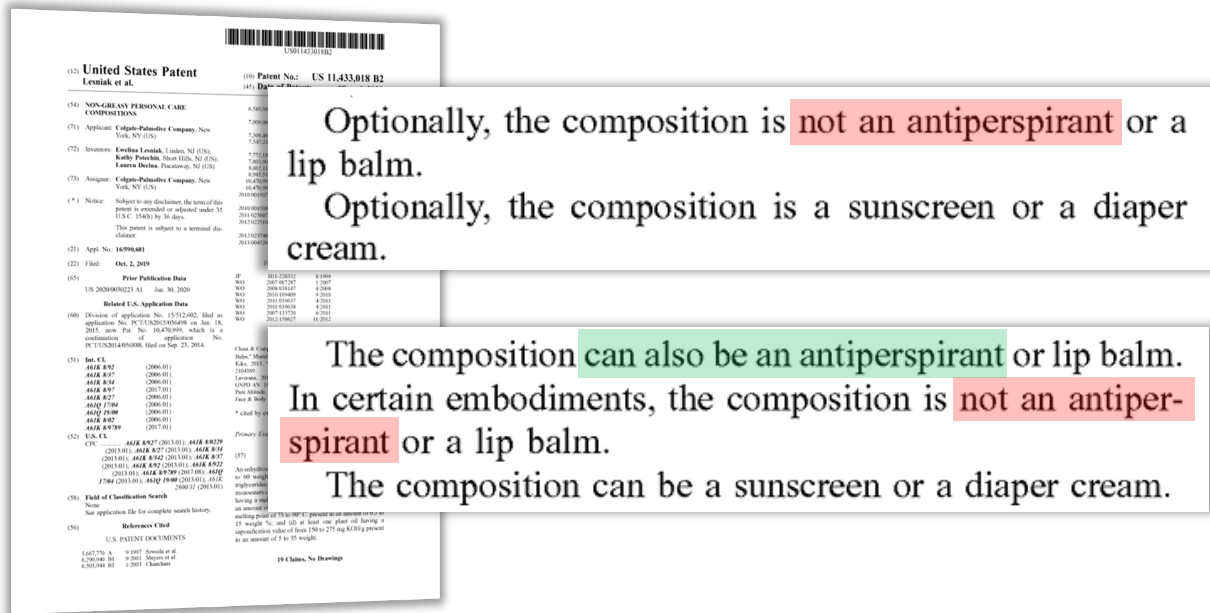
A POSA would have understood that zinc oxide, particularly in the high amounts present in Lesniak, is not commonly used or useful in deodorants. (Ex. 2011 at ¶ 48.) Petitioner’s Phinney reference confirms this, explaining “zinc oxide... [is] *very unreactive against perspiration odour.*” (Ex. 1004 at 2:33-36; *see also id.* at 3:20-21.) And Petitioner’s expert could not identify a single deodorant that contains the 20% zinc oxide that Lesniak discloses. (Ex. 2012 at 66:21-67:1.)

Lesniak's stated goals, specification, ingredients, and claims all show that a POSA would have viewed Lesniak as relevant to high zinc oxide concentration sunscreens or diaper creams, not to deodorant sticks as required by the claims. (Ex. 2011 at ¶¶ 45-49.) Lesniak does not mention a "deodorant stick" or "deodorant" even once. Petitioner's Lesniak-based grounds fail to invalidate claims 1-19.

2. *Any Alleged Disclosure of an "Antiperspirant" Dooms Petitioner's Argument*

Acknowledging the lack of an express "deodorant stick" disclosure in Lesniak, Petitioner jumps through hoops to argue that Lesniak's throwaway sentence regarding an "antiperspirant" teaches the claim limitation. This argument lacks merit.

Lesniak uses the word "antiperspirant" in just three instances, and in two of those three instances, Lesniak explicitly states that the composition is "***not*** an antiperspirant":



(Ex. 1003 at 4:23-26, 10:27-29.) Lesniak also does not specify any form of antiperspirant, which can come in a variety of forms, including aerosol sprays, creams, liquids, and gels. (Ex. 2011 at ¶ 57.) These passing references to “antiperspirant” fail to convert Lesniak into something other than a reference about sunscreens and diaper creams. (*Id.*)

Moreover, to the extent a POSA would have considered these words at all, they would have understood any such “antiperspirant” to contain aluminum. To a POSA, the term “antiperspirant” means a composition containing an aluminum salt or complex—the only antiperspirant actives approved by the FDA.¹ See 21 C.F.R.

¹ Sensitive to this reality, Petitioner attempts to argue Lesniak precludes the use of aluminum. (Petition at 21.) This is incorrect. Lesniak defines “natural”

350. As Dr. Lochhead explains, a POSA would have understood that the FDA regulates antiperspirants as drugs and regards deodorants as cosmetics. (Ex. 2011 at ¶ 52.) A POSA would have further understood Lesniak’s disclosure of “antiperspirant” as requiring the use of an antiperspirant active, and the only antiperspirant actives approved by the FDA all contain aluminum. (*Id.*) Indeed, the FDA lists the 18 approved antiperspirant actives in its monograph “Antiperspirant Drug Products for Over-the-Counter Human Use,” and every single one comprises an aluminum compound or complex:

composition/ingredients to refer to the use of “ingredients which are extracted from the earth or sea, derived from plants, or synthesized by other organisms.” (Ex. 1003 at 4:61-67.) Aluminum is necessarily included in this definition, as aluminum is “extracted from the earth,” and, in fact, is one of the most abundant elements in the earth’s crust. (*See* Ex. 2011 at ¶ 53.)

- (a) Aluminum chloride up to 15 percent, calculated on the hexahydrate form, in an aqueous solution nonaerosol dosage form.
- (b) Aluminum chlorohydrate up to 25 percent.
- (c) Aluminum chlorohydrate polyethylene glycol up to 25 percent.
- (d) Aluminum chlorohydrate propylene glycol up to 25 percent.
- (e) Aluminum dichlorohydrate up to 25 percent.
- (f) Aluminum dichlorohydrate polyethylene glycol up to 25 percent.
- (g) Aluminum dichlorohydrate propylene glycol up to 25 percent.
- (h) Aluminum sesquichlorohydrate up to 25 percent.
- (i) Aluminum sesquichlorohydrate polyethylene glycol up to 25 percent.
- (j) Aluminum sesquichlorohydrate propylene glycol up to 25 percent.
- (k) Aluminum zirconium octachlorohydrate up to 20 percent.
- (l) Aluminum zirconium octachlorohydrate gly up to 20 percent.
- (m) Aluminum zirconium pentachlorohydrate up to 20 percent.
- (n) Aluminum zirconium pentachlorohydrate gly up to 20 percent.
- (o) Aluminum zirconium tetrachlorohydrate up to 20 percent.
- (p) Aluminum zirconium tetrachlorohydrate gly up to 20 percent.
- (q) Aluminum zirconium trichlorohydrate up to 20 percent.
- (r) Aluminum zirconium trichlorohydrate gly up to 20 percent.

(21 C.F.R. 350.10; Ex. 2011 at ¶ 53.)

Here, the FDA-approved antiperspirant actives inform the POSA's knowledge about the scope of Lesniak's disclosure. (Ex. 2011 at ¶ 54.) A POSA would have understood, based on both FDA requirements and as a matter of common knowledge in the field, that Lesniak's "antiperspirant" contains aluminum. (*Id.*) This is standard across the industry:



WHAT IS AN ANTIPERSPIRANT?

Antiperspirants serve a different purpose compared to deodorants. Their main task is to minimize sweat production and keep you dry. While deodorants only target bacteria to prevent odor, antiperspirants go one step further by temporarily blocking the sweat glands. This is particularly useful for individuals who experience excessive sweating, often referred to as "hyperhidrosis," or for those who want extra protection during physical activity or warm weather.

The magic behind antiperspirants lies in their aluminum compounds, which dissolve into the moisture on your skin. Once dissolved, they form a temporary "plug" over the sweat glands, reducing the amount of sweat that reaches the surface of your skin. This, in turn, helps you stay dry and reduces the moisture that bacteria feed on, effectively reducing odor.

(Ex. 2014.)



They offer different protection.

Antiperspirants and deodorants will both help to keep you fresh. The key difference is the aluminum in antiperspirants, which helps control the amount that you sweat.

(Ex. 2015.)



What is the difference between an antiperspirant and a deodorant?

The short answer is the aluminum active ingredient*. Simply put, antiperspirants have it, and deodorants don't. That's the difference...and if that's all you wanted to know—then you have your answer. But if you'd like to learn more, let's dive a little deeper so you can find the protection that's right for you.

(Ex. 2016.)

Furthermore, the most important difference between antiperspirant is actually one specific ingredient, aluminum. If that stick contains **aluminum**, the product is an antiperspirant. Aluminum is the sweat blocking active ingredient in antiperspirant products, which aims to control or prevent sweat entirely. Metallic salts and aluminum chloride are the active ingredients in antiperspirants. The aluminum in your antiperspirant is activated when you start to sweat. It then gets absorbed into your sweat glands, and forms a plug that blocks sweat from leaving your body. So even though your body is producing sweat it isn't able to reach the surface of the skin.



(Ex. 2017 (Petitioner Dr. Squatch's website).)

The POSA's understanding of "antiperspirant" to include aluminum is fatal to Petitioner's obviousness argument. (Ex. 2011 at ¶ 55.) Even if the Board were to accept Petitioner's argument that Lesniak teaches a "deodorant stick" through its single-instance "antiperspirant" disclosure, Petitioner's claim mapping would fail as to the aluminum-free requirement of the challenged claims. (*Id.*) Put differently, if Lesniak sufficiently discloses "a deodorant stick in the form of an antiperspirant stick" as Petitioner contends (and Lesniak does not), then that Lesniak stick contains aluminum. (*See* Petition at 20.) Either way, Petitioner fails to establish that the

Lesniak-based grounds disclose each and every element of the challenged claims.² (Ex. 2011 at ¶¶ 50-55.)

3. *Lesniak’s Purported Disclosure of a Deodorant Stick is Non-Enabling.*

For yet an additional reason, Lesniak fails to render obvious the “deodorant stick” limitation: its disclosure is decidedly non-enabling. Petitioner contends “Lesniak discloses a deodorant stick in the form of an antiperspirant stick.” (Petition at 20.) But Lesniak fails to enable an antiperspirant stick, and certainly fails to enable a deodorant stick.

Lesniak never mentions an antiperspirant *stick*,³ and of course never discloses a *deodorant stick*. (Ex. 2011 at ¶ 57.) In fact, the only “stick” formulation Lesniak expressly teaches is a sunscreen stick:

² To the extent Petitioner contends Lesniak’s sunscreen and diaper cream formulations do not need to be modified before serving as an antiperspirant or deodorant, and in that scenario, would be aluminum-free, that is wrong. For the reasons already discussed above, a POSA would not have considered Lesniak’s 20% zinc oxide formulas to be an antiperspirant or the claimed “deodorant stick.” And Petitioner’s expert could not identify which of Lesniak’s formulations would indeed work as a deodorant or form a deodorant stick. (See Ex. 2012 at 65:2-66:20.)

³ Note that at the time of the invention, antiperspirants and deodorants were available in different forms, including sprays, creams, liquids, and gels. (Ex. 2011 at ¶ 57; Ex. 1002 at ¶¶ 34, 37.)

TABLE 7	
Sunscreen Stick Formulation	
Material	Weight %
Caprylic/capric triglyceride	51
Zinc oxide	20
Beeswax	13.5
Sunflower seed oil	7.4
Sunflower seed wax	5
Hydrogenated castor oil (Castor Wax MP80)	3
Vitamin E Acetate	0.1

(Ex. 1003 at Table 7; *see also* Ex. 2012 at 75:5-10 (Petitioner’s expert confirming that Table 7 “is the only one that contains the ingredients that Lesniak discloses as creating [a] stick”).)

Lesniak’s single *sunscreen* stick example does not rise to the level of an enabling disclosure of a deodorant stick. “[T]o render an invention unpatentable for obviousness, the prior art must enable a person of ordinary skill to make and use the invention.” *In re Kumar*, 418 F.3d 1361, 1368 (Fed. Cir. 2005). Lesniak fails to satisfy this standard because its compositions are riddled with instability problems, and there is no indication that a POSA could have derived from Lesniak *any* stable cosmetic stick (including a sunscreen stick); there is certainly no indication that a POSA could have derived from Lesniak a stable *deodorant* stick. (Ex. 2011 at ¶¶ 58-59.)

Lesniak describes a test to assess “[t]he physical stability of each composition,” and presents the results of that testing in Table 2. (*Id.* at 11:7-26.) Lesniak explains

that out of the eleven (non-stick) sunscreen compositions evaluated, *only two* were physically stable when stored at 49°C and did not exhibit “separation”:

TABLE 2											
Sunscreens.											
	Composition#										
	1*	2*	3*	4*	5*	6*	7*	8	9*	10*	11
	Weight %										
Zinc Oxide	20	20	20	20	20	20	20	20	20	20	20
Sunflower oil	57	30	10	10	10	10	10	10	10	10	12.5
Caprylic/Capric Triglyceride	5	35	55	53	53	54	54	53	53	50	52
Beeswax	13	15	15	17	17	15	15	15	15	15	13.5
Shea butter	5	0	0	0	0	0	0	0	0	0	0
CastorWax MP80 hydrogenated castor oil	0	0	0	0	0	0	0	2	0	0	2
Tapioca starch	0	0	0	0	0	0	1	0	0	0	0
Cetyl Alcohol	0	0	0	0	0	0	0	0	2	0	0
Thickener silica	0	0	0	0	0	1	0	0	0	0	0
Natural jelly SP511	0	0	0	0	0	0	0	0	0	5	0
Total	100	100	100	100	100	100	100	100	100	100	100
Freeze/thaw stability	F/T 3	F/T 3	F/T 3	F/T 3	F/T 3	F/T 3	F/T 3	F/T 3	F/T 3	F/T 3	F/T 3
	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
High temp. stability (49° C.)	Fail	Fail	Fail	Fail	Fail	Fail	Fail	Pass	Fail	Fail	Pass
“Whitening” acceptability	No	No	Yes	Yes	Yes	No	No	Yes	No	No	Yes
Dispensing acceptability	No	No	No	No	No	No	No	Yes	No	No	Yes
Greasiness/after-feel acceptability	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes

*denotes comparative composition.

(*Id.* at Table 2; *see also id.* at 11:17-19.) As to its only stick formulation—the sunscreen stick taught in Table 7—Lesniak is silent as to stability. (*See id.* at Table 7; Ex. 2011 at ¶¶ 60-61.)

The instability of Lesniak’s formulas is consistent with a POSA’s understanding of the complex interactions involved in crystalline semisolids. (Ex. 2011 at ¶ 62.) As a POSA would have understood, Lesniak’s structured

compositions comprise a network of crystals that physically trap liquid in their interstices. (*Id.*) The texture, stability, and bulk properties of these compositions depend upon their microcrystal morphology—the size, shape, and strength of interaction between the crystals in the fractal network—which varies with the amount and type of liquid component(s) used as the carrier system. (*Id.*) A POSA would have recognized that Lesniak’s compositions utilize a triglyceride-based carrier system. (*Id.*; Ex. 1003 at Tables 2-3, 5, 7.)

A POSA would have appreciated and been aware of the morphological crystal changes that could result from any alteration in the structured composition, such that even the slightest variation in ingredients as to the carrier system or structurants could yield an unstable composition, and if in the form of a stick, an unusable stick. (Ex. 2011 at ¶ 63.) Lesniak itself acknowledges this, revealing the inventors’ struggle to find compositions that pass stability tests. (*E.g.*, Ex. 1003 at Table 2.) As the POSA would have known, physical stability upon storage is a widely recognized requirement for cosmetic products, including deodorant and antiperspirant sticks. (Ex. 2011 at ¶ 63.)

Importantly, Lesniak reveals only *slight differences* in a composition can cause it to go from stable to unstable, exemplifying the fragility of these crystal-network-structured semisolids. (Ex. 2011 at ¶ 64; *see also* Ex. 1003 at 12:1-5.) Comparing a few of Lesniak’s Table 2 compositions is instructive:

Ingredient	Unstable Comp. 4	Unstable Comp. 5	Unstable Comp. 7	Stable Comp. 8	Stable Comp. 11
Zinc Oxide	20	20	20	20	20
Sunflower Oil	10	10	10	10	12.5
Caprylic / Capric Triglyceride	53	53	54	53	52
Beeswax	17	17	15	15	13.5
Castor Wax <u>MP80</u>	0	0	0	2	2
Tapioca Starch	0	0	1	0	0
Total	100	100	100	100	100

(See Ex. 1003 at Table 2.)

Only Compositions 8 and 11 passed Lesniak’s stability tests, though their formulations contain only slight deviations from comparative non-stable compositions. (Ex. 1003 at 12:1-5.) For example, the only difference between unstable Compositions 4 and 5, and stable Composition 8, is that 2% of the beeswax was replaced by 2% castor wax. (See Ex. 2011 at ¶ 65.) Unstable Composition 7 also has nearly identical ingredients, except it includes an extra percent by weight of the triglyceride and 1% tapioca starch. A POSA would thus have understood from Lesniak that very small changes to any of its compositions could yield an unstable and separated composition. (*Id.* at ¶¶ 65-67.)

In light of Lesniak’s conceded stability issues and failure to disclose a stable “stick” composition, Lesniak would not have enabled a POSA to create an operative, solid deodorant stick with the ingredients Lesniak discloses, without undue

experimentation. (Ex. 2011 at ¶¶ 68.) This is “strong evidence” that the reference is non-enabling. *In re Kumar*, 418 F.3d at 1369 (“[I]f it were shown that the Rostoker product could not be produced by the Rostoker method, that would be relevant evidence concerning whether Rostoker rendered obvious the Kumar product.”); *cf. In re Donohue*, 766 F.2d 531, 533 (Fed. Cir. 1985) (POSA’s inability to re-create compound based on reference would be “strong evidence” that the reference is non-enabling). In some cases, a reference’s “self-enablement (or lack thereof) is not only relevant to the enablement analysis ... it is dispositive.” *Raytheon Techs. Corp. v. Gen. Elec. Co.*, 993 F.3d 1374, 1382 (Fed. Cir. 2021).

In sum, Lesniak provides no teaching of a stable “deodorant stick,” no teaching of a stable “antiperspirant stick,” and at least nine different sunscreen formulas with slight variations that are all unstable. (Ex. 2011 at ¶ 69.) Among all of this is one example *sunscreen* “stick” as to which stability is unknown. A POSA armed with Lesniak’s disclosure on the fragility of its crystal-network-structured compositions—which lacks guidance as to how to formulate a stable deodorant or antiperspirant stick—would not have been enabled to make and use the claimed “deodorant stick.” (Ex. 2011 at ¶ 69.) None of Petitioner’s other references remedy this deficiency; Petitioner does not attempt to argue that they do.

Petitioner's Lesniak-based grounds fail to invalidate the "deodorant stick" limitation of claims 1-19 for this additional, independent reason. (Ex. 2011 at ¶¶ 56-69.)

B. Petitioner Admits A POSA Would Have Had No Reason to Modify Lesniak.
(Grounds 1-4: All Claims 1-19)

Turning to Petitioner's combinations, first, Petitioner does not identify any deficiencies of the (few) stable compositions of Lesniak that would have provided a POSA motivation to modify it, aside from what Petitioner gleans from hindsight. In fact, in numerous places, Petitioner and its expert argue *against* any modification of Lesniak, asserting a POSA "would have understood Lesniak's formulations *to be complete deodorant sticks that did not require additional ingredients*" (Petition at 21; *see also* Ex. 1002 at ¶ 74, 79, 81, 82.) Petitioner's expert doubled down on the standalone sufficiency of Lesniak at her deposition. When asked whether "the formulations in Lesniak require a modification in order to be turned into a deodorant," she answered: "No. They are deodorants." (Ex. 2012 at 59:4-7.)

Yet Petitioner *also* contends that a POSA *would have* sought to modify a host of different ingredients in Lesniak, from replacing or supplementing its antimicrobial to using a totally new structurant as a base. (*See* Petition at 20-26, 29-31.) These inconsistent arguments undermine the Petition, and in any event, the notion of completely reformulating Lesniak is unfounded. Petitioner fails to explain

why a POSA would have been motivated to reformulate Lesniak in any of these ways, and how a POSA could have had a reasonable expectation of success of making the deodorant stick of the '752 Patent claims through these modifications. In fact, given the POSA's understanding of Lesniak's high zinc oxide concentrations and instability challenges, the POSA would have been dissuaded from even attempting to use Lesniak as a starting point or modifying any of Lesniak's formulations. (Ex. 2011 at ¶ 72.)

Patent Owner addresses in more detail below Petitioner's specific motivation to combine arguments as to Bianchi-254, Phinney, Anconi, and Easy Homemade, but each combination suffers from this threshold deficiency. (Ex. 2011 at ¶¶ 71-73.)

**C. The Lesniak-Bianchi-254 Combinations Do Not Support a *Prima Facie* Case of Obviousness.
(Grounds 1-4: All Claims 1-19)**

To start, the combinations of Lesniak with Bianchi-254 (Grounds 1-4) do not support a *prima facie* case of obviousness. Lesniak discloses anhydrous, natural compositions and touts a desire “to formulate such compositions from all-natural ingredients (i.e. ‘100% natural’ compositions),” “which are extracted from the earth or sea, derived from plants, or synthesized by other organisms.” (Ex. 1003 at 4:61-64, 5:29-31.) In stark contrast, Bianchi-254 discloses compositions comprising 20-40% volatile silicones. (See Ex. 1008 at [0042], Tables 1, 5; Ex. 2012 at 108:10-14.) The POSA would not have been motivated to consider Bianchi-254's teachings in

combination with Lesniak, as the Bianchi compositions require large amounts of non-natural ingredients (volatile silicones), and using such non-natural ingredients would defeat the core objective of Lesniak to provide natural compositions. *See In re Fritch*, 972 F.2d 1260, 1265 (Fed. Cir. 1992); *In re Gordon*, 733 F.2d 900, 902 (Fed. Cir. 1984). (See also Ex. 2011 at ¶ 74.)

D. Petitioner’s References Do Not Disclose or Render Obvious the Hardness Limitation of Any Claims.
(Grounds 1-4: All Claims 1-19)

Petitioner also fails to show that its Lesniak combinations disclose the stick hardness range “from about 80 mm*10 to about 140 mm*10, as measured by penetration with [a 50-g total force] ASTM D-1321 needle,” required by every independent claim. (’752 at cl. 1, 15, 18, 19.)

1. *Neither Lesniak nor Bianchi-254 Disclose a Stick of the Claimed Hardness.*

Petitioner does not identify a single reference that discloses or even suggests the claimed hardness range. Petitioner admits its key reference Lesniak “does not expressly teach” the hardness. (Petition at 17.) Lesniak states its embodiments “can have a hardness of 300 to 550 g,” as measured using a texture analyzer, with its only formulated stick having a hardness of 432 g. (Ex. 1003 at 9:60-61, 15:41-42.) Neither Petitioner nor its expert attempt to convert this hardness to the metric claimed in the ’752 Patent, and Petitioner’s expert cannot say whether Lesniak’s

range is too soft, too hard, or overlapping at all with the '752 Patent. (Ex. 2012 at 76:21-78:6.)

Petitioner thus contends a POSA would have been motivated to combine Lesniak with Bianchi-254, which allegedly discloses the claimed hardness range. (Petition at 17-18.) Not so. Petitioner fails to provide a *prima facie* case of obviousness for the reasons discussed above, but further, Petitioner's argument is premised on a false equivalency between the hardness measurements disclosed in Bianchi-254 and those claimed in the '752 Patent. In fact, the Bianchi hardness test uses a needle and shaft with *double the weight* of the needle and shaft used in the '752 Patent (100 grams vs. 50 grams), and thus its so-called same or similar hardness ranges reflect that the Bianchi compositions are actually *significantly harder* than those claimed in the '752 Patent (*i.e.*, they require twice the weight of the penetration needle assembly to yield similar penetration depths). (Ex. 2011 at ¶¶ 76-84.)

Bianchi-254 discloses hardness values "from 8 to 15 mm, preferably 8 to 10 mm," measured pursuant to the DIN 51-579 hardness method. (Ex. 1008 at [0026], [0117]; Ex. 2011 at ¶ 80.) The DIN 51-579 method measures "[t]he depth of penetration of a loaded and temperature-controlled test needle (total weight 100 g)... with a penetrometer..." (Ex. 2019 at 1.) DIN 51-579 explains "[t]he weight of the test needle should be 2.5 g $\pm$ 0.05 g and that of the guide rod 97.5 g $\pm$ 0.1g." (*Id.* at

2; Ex. 2011 at ¶ 80.) This DIN 51-579 method using 100 grams of total load was readily known to a POSA. (Ex. 2011 at ¶ 80.)

The '752 Patent uses a different hardness testing method. The '752 Patent explains that its invention exhibits a hardness in the range of “80 mm*10 to about 140 mm*10,” as measured using an ASTM D-1321 penetration needle in a test similar to ASTM D-1321 and DIN 51-579, but with a significant difference: “the total weight of the shaft and needle is 50±0.2 grams when the shaft is in free fall.” ('752 at 12:7-8.) The '752 Patent's method does not include the extra “50-g weight” added to the needle in the DIN 51-579 test utilized by Bianchi-254 and therefore does not utilize a 100-gram total load as in Bianchi-254. (Ex. 2011 at ¶ 81.)

In other words, the hardness values in Bianchi-254 reflect its antiperspirant stick's response to 100 grams of shaft and needle weight, whereas the hardness values in the '752 Patent reflect the response of the claimed deodorant stick to 50 grams of shaft and needle weight. (Ex. 2011 at ¶ 82.) Thus, the hardness values disclosed in Bianchi-254 are based on the penetration depth of a needle assembly having *two times the weight* of the needle assembly utilized in the '752 Patent. (*Id.*) If the Bianchi compositions were tested using the method of the '752 Patent, the 50-g assembly would have a much shorter penetration distance than an assembly twice its weight. (*Id.*)

Thus, while Petitioner attempts to paint the Bianchi-254 hardness range as overlapping with the '752 Patent hardness range, the two ranges are not overlapping at all. They are significantly different, reflecting similar penetration values for very different load weights. A POSA would have understood that Bianchi-254 required a 100-g weight needle in order to penetrate the same or similar distance as a 50-g weight needle would penetrate in the '752 claimed compositions. (Ex. 2011 at ¶ 83.) Dr. Lochhead explains that while there are no formulas to convert the results of one of these methods to the other, a POSA would have expected that the Bianchi-254 hardness range indicates *significantly harder* sticks than that claimed in the '752 Patent. (*Id.*; '752 at 3:2-7 (explaining harder sticks have lower hardness scores).)

In short, Petitioner has not cited any reference disclosing the hardness range as measured by the test defined in the '752 Patent, and thus no reference with the hardness range specified in every claim of the '752 Patent. This is fatal to all of the Lesniak-based grounds (and, as explained below, to the Native-based grounds, too).

2. *Even if the Claimed Hardness Range Is Disclosed (It Is Not), Petitioner's Argument Still Fails.*

Moreover, even if Bianchi-254's hardness range was relevant to the hardness range claimed in the '752 Patent—which it is not—Petitioner's argument still falls short for several additional reasons.

First, Bianchi-254 expressly ties its hardness disclosure to the inventive formulations it discloses, stating that in “embodiment[s] of interest,” it is “desirable”

that the antiperspirant stick compositions have that particular hardness. (Ex. 1008 at [0026].) For example, the antiperspirant compositions disclosed in Bianchi-254 contain, e.g., “from 20 to 40 wt. %” of a volatile silicone, and silicone is the ingredient often present in the greatest amount across Bianchi-254’s compositions. (See Ex. 1008 at [0042], Tables 1, 5; Ex. 2012 at 108:10-14.) The Bianchi-254 compositions further include from 20 to 30 wt. % of the aluminum-containing antiperspirant active. (Ex. 1008 at Tables 1, 5; Ex. 2012 at 108:10-14.)

Indeed, as shown below, all of Bianchi-254’s antiperspirant formulations contain aluminum and volatile silicones—but these ingredients are expressly forbidden by all claims of the ’752 Patent:

COMPONENT (wt. %)	FORMULATION NO.										
	1	2	3	4	5	6	7	8	9	10	11
Castor Wax (mp 80° C.)	3.5	4	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4	4
Stearyl Alcohol (mp 60°)	18	18	20	18	18	18	18	18	18	18	18
Polyethylene (400 mw; mp 82–84° C.)	0.3	0.5	0.5	0.5	0.5	1	1	1	1	1	1
Silica	0.3			0.3	0.3			0.5	0.5	0.75	1
PPG-14 Butyl Ether	20	5	5	20	20	9.5	15	15	25	31.25	8
C12-C15 Alkyl Benzoate (Finsolv TN)	5	20	18	5	5	15	23.5	23	13	8	31
Dimethicone, 50 cst; (Dow Corning 200)	1	1	1	1	1	1	1	1	1	1	1
Sunflower Oil	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Talc				3.5	2						2.5
AAZG (17.8%)	24	20	20	20	20	20	24	24	24	24	24
Fragrance	1	1	1	1	1	1	1	1	1	1	1
BHT (butylated hydroxytoluene)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Cyclomethicone; (Silicone 245; Dow Corning)	26.35	29.95	30.45	26.65	28.15	30.45	12.45	12.45	12.45	10.45	7.95

TABLE 5								
<u>Antiperspirant Stick Formulations</u>								
COMPONENT (wt. %)	FORMULATION NO.							
	12	13	14	15	16	17	18	19
Castor Wax (mp 80° C.)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Stearyl Alcohol (mp 60°)	18	18	18	18	18	18	18	18
Polyethylene (400 mw; mp 82–84° C.)	1	1	1	1	1	1	1	1
Steareth 100	0.5	0.5	0.5	0.5	—	—	0.5	—
PPG-14 Butyl Ether	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
C12–C15 Alkyl Benzoate (Finsolv TN)	15	15	15	15	15	15	15	15
Dimethicone, 50 cst (Dow Corning 200)	1	1	1	1	1	1	1	1
Sunflower Oil	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
AAZG (17.8%)	20	20	20	20	30	24	20	24
Fragrance	1.25	1.25	1.25	1.25	1	1	1.25	1
Fragrance Encapsulate							1.5	1.5
BHT (butylated hydroxytoluene)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Cyclomethicone (Silicone 245; Dow Corning)	28.7	27.7	28.2	29.7	20.45	26.45	28.2	24.95
Cyclodextrin	1	2	1.5					

(Ex. 1008 at [0033], Tables 1, 5; Ex. 2011 at ¶ 86.) Petitioner is silent on Bianchi-254’s use of aluminum and silicones, and neither Petitioner nor its expert explain how, or whether, a POSA could have achieved the hardness of Bianchi-254’s aluminum- and silicone-based compositions, let alone the ’752 Patent’s claimed hardness, in an aluminum- and silicone-free deodorant composition. Eliminating both of these prohibited ingredients from Bianchi-254’s formula leaves just half of a stick, certainly not within the claimed hardness range. (Ex. 2011 at ¶ 86.) Petitioner does not address this gap in Bianchi-254’s formula.

Second, Petitioner fails to explain why a POSA would have modified Lesniak’s hardness in the first place, given Petitioner’s assertion that it is allegedly a “complete deodorant stick[]” that did not require additional ingredients or modifications. (Petition at 31). Petitioner’s expert concedes Lesniak does not

identify any deficiencies with the hardness of its compositions such that a POSA would have sought to modify it. (*See* Ex. 2012 at 76:2-7 (Q: “And Lesniak doesn’t indicate anywhere that this hardness is insufficient, right?” A: “I believe he doesn’t.” Q: “He doesn’t say that the sticks are too soft or too hard?” A: “I believe not....”); *see also* Ex. 1002 ¶ 76.) And Lesniak’s known stability issues would have further dissuaded a POSA from modifying it. (Ex. 2011 at ¶ 87.) Beyond hindsight reconstruction, Petitioner provides no basis for its obviousness argument.

Third, given the POSA’s understanding of the instability of Lesniak’s compositions, a POSA would not have been able to arrive at the claimed hardness through routine optimization of Lesniak, nor would he or she have had a reasonable expectation of success in modifying Lesniak to achieve the purported hardness of Bianchi-254 (which, again, does not overlap with the ’752 Patent’s claimed range in the first place). “[K]nowledge of the goal does not render its achievement obvious.” *Abbott Laby’s. v. Sandoz, Inc.*, 544 F.3d 1341, 1352 (Fed. Cir. 2008); *see also Procter & Gamble Co. v. McNeil-PPC, Inc.*, 615 F. Supp. 2d 832, 849-50 (W.D. Wisc. 2009). And here, even if the Board were to ignore the mismatch of Petitioner’s hardness range comparisons between Bianchi-254 and the ’752 claimed invention, achieving the claimed hardness range would not have been obvious to a POSA. Neither Petitioner nor its expert tried to convert the hardness range disclosed in

Lesniak to the claimed hardness metric, so neither Petitioner nor its expert provide a starting point for the POSA as to Lesniak's hardness. (*See* Ex. 2011 at ¶¶ 88-89.)

Moreover, as discussed above, even the slightest change in Lesniak's ingredients yields unstable and unusable compositions. (*Id.* at ¶ 90.) Bianchi-254 expressly ties its hardness disclosure to the inventive formulations it discloses, again stating that in "embodiment[s] of interest," it is "desirable" that the antiperspirant stick compositions have that particular hardness. (Ex. 1008 at [0026].) All of Bianchi-254's antiperspirant formulations contain aluminum and volatile silicones. And, in view of Lesniak's Table 2, a POSA would have understood that an increase in structurant content, for example, would not predictably provide physical stability to the formulation, and as such would not affect Lesniak's overall hardness in the easy and expected way Petitioner contends. (Ex. 2011 at ¶¶ 66-67, 90; Petition at 16-20; *see also* Ex. 1008 at Tables 1, 6 (showing even small changes in ingredients yield different hardnesses).) Instead, a POSA would not have had a reasonable expectation of success in modifying Lesniak to achieve the claimed hardness in a stable composition, particularly when removing up to half of the Bianchi-254 stick by omitting silicones and aluminum. (Ex. 2011 at ¶ 90.)

All of these additional failings further highlight Petitioner's deficient challenge to the hardness limitation, which already loses at the outset for lack of a single reference that teaches the hardness limitation of all claims.

E. Petitioner Fails to Explain Why or How a POSA Would Have Reformulated Lesniak to Include Bianchi-254's Structurant
(Grounds 1-4: All Claims)

Every claim of the '752 Patent requires a deodorant stick with "stearyl alcohol," whether as a "structurant" (cl. 1) or generally (cls. 15, 18, 19), which Petitioner claims is disclosed by Bianchi-254. (Petition at 17, 21.) Petitioner argues that "[w]hile Lesniak describes formulating deodorant compositions with 'fatty alcohols' ... it does not expressly disclose using stearyl alcohol as a structurant." (*Id.* at 17.) Petitioner adds Bianchi-254, arguing that Bianchi-254 "states stearyl alcohol is a 'widely used' structurant 'of particular interest' for deodorants" (*Id.*)

But as discussed above, Petitioner admits the POSA would not have been motivated to reformulate Lesniak, and instead understood Lesniak as "a complete deodorant stick" without the need for additional ingredients or modification. (*See, e.g., id.* at 21, 23.) Moreover, as explained above, a POSA would not have been motivated to combine the teachings of Bianchi-254 with Lesniak's "natural" compositions, as Bianchi-254's use of high levels of non-natural ingredients like volatile silicones would defeat the core objective of Lesniak. (Ex. 2011 at ¶ 93.)

The POSA also would not have had a reasonable expectation of success in implementing the change contemplated by Petitioner's arguments—namely, a complete reformulation of Lesniak to make stearyl alcohol the structurant of the stick. (*See* Petition at 21; Ex. 2011 at ¶ 94.) Lesniak describes fragile compositions that

can become unstable with even the smallest changes in ingredients, let alone a change in a key ingredient like the structurant. (Ex. 2011 at ¶ 94.) Petitioner cannot show a POSA would have had a reasonable expectation of success in making such a change for the same reasons discussed above regarding Lesniak's stability and the fundamental differences between the compositions described in Lesniak and that of Bianchi-254. Petitioner's Lesniak-based grounds fall short as to stearyl alcohol. (*Id.*)

F. A POSA Would Not Have Added Phinney's Magnesium Hydroxide to Lesniak or Had a Reasonable Expectation of Success in Doing So.
(Ground 2: Claim 14)

With specific respect to Ground 2, Petitioner has not shown that a POSA would have been motivated to look to Phinney to completely reformulate Lesniak to include magnesium hydroxide as an antimicrobial, or to replace Lesniak's zinc oxide with magnesium hydroxide entirely. (*See* Ex. 2011 at ¶ 95.) Petitioner contends "Lesniak teaches deodorant stick compositions containing zinc oxide (a known antimicrobial), but it does not expressly teach including magnesium hydroxide as an antimicrobial. Phinney discloses a deodorant stick that comprises magnesium hydroxide as an antimicrobial, in addition to zinc oxide.... A POSA would have been motivated add magnesium hydroxide to Lesniak's stick compositions," or motivated "to replace the zinc oxide in Lesniak's deodorant stick" because "zinc oxide was thought to have lower efficacy in combating odor." (Petition at 28-29.) Petitioner's rationale is belied by Phinney itself.

First, Lesniak and Phinney describe entirely different uses for their metal oxides/hydroxides and a POSA would not have looked to combine their teachings on this topic. (Ex. 2011 at ¶ 96.) Lesniak includes zinc oxide in its sunscreen and diaper cream products as a protective barrier, *i.e.*, to protect the skin from sun and other irritants, and in the case of the diaper cream, to help prevent diaper rash. (*See, e.g.*, Ex. 1003 at cl. 13; *see also* Ex. 2003.) Lesniak does not use zinc oxide for odor control at all. As explained above, a POSA would have understood Lesniak's formulas with high concentrations of zinc oxide to be unsuitable for use as an underarm deodorant or antiperspirant. (Ex. 2011 at ¶ 96; *see also* Ex. 1004 at 2:33-36 (“[Z]inc oxide... [is] very unreactive against perspiration odour.”), *id.* at 3:20-21.) Thus, a POSA would not have been motivated to look at Phinney to modify Lesniak or incorporate any additional antimicrobial into Lesniak “to improve odor protection,” as odor protection was not a goal of Lesniak's zinc oxide in the first place. (Ex. 2011 at ¶ 96.)

Second, Petitioner cherry picks magnesium hydroxide from Phinney's disclosure of a three- or four-ingredient combination. Phinney explains that to combat odor, its compositions contain a combination of (1) magnesium hydroxide, **and** (2) zinc *hydroxide*, **and** (3) potassium chloride and/or potassium sulfate. (Ex. 1004 at 8:7-31, cl. 1.) There are two significant aspects to this multi-part odor

fighting combination: the requirement of zinc hydroxide, not zinc oxide; and the requirement of potassium chloride/sulfate. (Ex. 2011 at ¶ 97.)

Phinney emphasizes the need for zinc *hydroxide*, not zinc *oxide*, stating that “[t]he zinc hydroxide typically lowers the pH of the magnesium hydroxide-perspiration odour-controlling formulation of the invention,” which “avoid[s] skin irritation.” (*Id.* at 5:31-33, 52-60.) Phinney further requires the “disinfection capacity” of a potassium and/or sulfate potassium chloride, and makes clear at least one of these ingredients is responsible “for destroying microorganisms associated with odour.” (*Id.* at 3:66-4:1, 5:1-5, 5:64-67.)

Thus, Phinney does not teach, as Petitioner would have it, a combination of zinc oxide and magnesium hydroxide at all. Rather, Phinney utilizes an odor-fighting mixture of zinc *hydroxide*, magnesium hydroxide, *and* potassium sulfate and/or chloride: “In respect of greater detail regarding the formulation, *magnesium oxide* and *zinc oxide* must have high reactivity and are *added to water along with potassium sulfate* and mixed until the magnesium oxide and zinc oxide are converted to their hydroxides” (*Id.* at 8:22-41; Ex. 2011 at ¶¶ 98-99.)

Petitioner’s cherry picking of magnesium hydroxide alone is unsupported by Phinney’s disclosure and is further evidence of Petitioner’s hindsight bias. (Ex. 2011 at ¶ 100.) Petitioner’s expert acknowledges Phinney does not disclose any deodorant composition containing magnesium hydroxide without zinc hydroxide *and* a

separate ingredient(s)—potassium sulfate and/or chloride—as the disinfecting agent. (Ex. 2012 at 89:4-10 (Q: “And so none of these compositions that are disclosed in Phinney contain magnesium hydroxide alone without the other two elements that we’ve discussed, right?” A: “No, because I guess his invention was the -- the actual combination that he was looking at.”))

Third, Petitioner glosses over the conversion of zinc oxide to zinc hydroxide required by Phinney. Phinney teaches its metal oxides must be converted to their hydroxides by mixing with water, or “skin irritation will occur.” (Ex. 1004 at 4:48-51, 8:40-41.) Phinney’s compositions are, on average, 20% by weight water, whereas Lesniak’s zinc oxide compositions are anhydrous. (Ex. 2011 at ¶ 101.) Petitioner ignores this fundamental difference, and fails to address that a POSA would have needed to add a significant amount of water to the Lesniak compositions to convert Lesniak’s zinc oxide into zinc hydroxide, as required by Phinney’s teachings, which would fundamentally alter the Lesniak-combination composition to the point that it might not even form a stick at all. (*Id.*) Phinney suggests combining zinc oxide and magnesium oxide, which are then both hydrated in a slurry to form zinc hydroxide and magnesium hydroxide. (Ex. 1004 at 8:22-26.) Were a POSA to add Phinney’s magnesium oxide to the zinc oxide in Lesniak, neither would be converted to hydroxide in Lesniak’s anhydrous composition. (Ex. 2011 at ¶ 101.)

Fourth, Petitioner does not reconcile the vast difference in the amounts of the metal oxides/hydroxides in Lesniak and Phinney. A POSA would have understood Lesniak's upwards of 20% zinc oxide compositions to be far from the 0.5-1.5% of zinc hydroxide used in Phinney. (*Id.* at ¶ 102; *see also* Ex. 2012 at 84:14-16 (Petitioner's expert testifying in agreement that Phinney's zinc oxide is "much lower" than Lesniak's).) Moreover, Phinney requires the magnesium hydroxide to be substantially in excess of the zinc hydroxide to be effective in his deodorant compositions. (*Id.*; Ex. 1004 at 8:42-43.) As Petitioner's expert confirmed, "Phinney teaches [a POSA] that you should have *more* magnesium hydroxide than zinc hydroxide," and in fact, "it should be a ratio of 3 to 1." (Ex. 2012 at 83:20-84:8; Ex. 1004 at 8:42-43; Ex. 2011 at ¶ 102.) Petitioner's alleged motivations to combine do not consider the incompatibility between Lesniak and Phinney's disclosures whatsoever.

Given the disparate teachings of the two references, which disclose two very different types of cosmetic systems (Lesniak anhydrous, triglyceride-based; Phinney water/polyol based), a POSA would not have looked to Phinney to modify Lesniak, and would not have been motivated to pluck magnesium hydroxide out of the Phinney multi-ingredient teachings to add it to the high zinc *oxide* concentration Lesniak compositions. (Ex. 2011 at ¶ 103.)

Nor would a POSA have had a reasonable expectation of success in any such modification. Indeed, as explained above, Lesniak teaches that its triglyceride-carried formulations are delicate, with even the slightest changes yielding unstable results. (Ex. 2011 at ¶ 104.) A POSA would have understood and appreciated the instability of the formulations disclosed in Lesniak, and thus would not have had a reasonable expectation of success in reformulating Lesniak to add magnesium hydroxide, at either the amount specified in Phinney or the scaled-up amount required to maintain Phinney's "effective" 3:1 ratio of magnesium hydroxide to zinc hydroxide. (*Id.*) And a POSA certainly would not have had a reasonable expectation of success in a reformulation comprising not just magnesium hydroxide, but also the requisite amount of water to turn Lesniak's 20% zinc oxide into zinc hydroxide, as required by Phinney. (*Id.*)

Further, a POSA would have understood that the deodorant formulations disclosed in Phinney comprise water/propylene glycol carrier systems structured by sodium stearate, which a POSA would have appreciated is different than the anhydrous and triglyceride-based carrier systems relied on in Lesniak. (Ex. 2011 at ¶ 105.) A POSA would have known and appreciated the fundamental differences between Lesniak's and Phinney's technologies, in terms of their carriers, structurant(s), and crystal network, and as such, would not have had a reasonable expectation of success in combining the references' teachings. (*Id.*)

For all of these reasons, Petitioner does not articulate a rational motivation to combine Lesniak and Phinney with any reasonable expectation of success.

G. Petitioner Does Not Explain Why a POSA Would Add Triethyl Citrate to Lesniak
(Grounds 3-4, Claims 15-19)

Turning to Grounds 3 and 4, challenged claims 15-19 require that the deodorant stick include “triethyl citrate,” which Petitioner contends is disclosed by Anconi in Petitioner’s three- and four-reference combinations. (Petition at 29-35.) Petitioner argues that a POSA would have added triethyl citrate to Lesniak to supplement its inefficacious antimicrobial zinc oxide and also because “triethyl citrate was known to prevent the degradation of triglycerides in compositions for topical use.” (Petition at 31.)

First, like the fundamental differences between Lesniak and Bianchi-254’s compositions described above, Lesniak and Anconi are similarly directed to different stick technologies, with Lesniak employing an anhydrous, wax-structured, triglyceride-based system, while Anconi discloses an aqueous propylene glycol- and/or alcohol-based mixture solidified, for example, by sodium stearate. (Ex. 1057 at [0049]; Ex. 2011 at ¶ 108.) A POSA would not have been motivated to reformulate Lesniak in the first place, let alone reformulate Lesniak in accordance with the teachings of an entirely different stick technology. (Ex. 2011 at ¶ 108.)

Just as Lesniak has known stability issues, Anconi warns that “[s]ticks and solids are really complex chemical systems requiring a balance of ingredients designed to make the most of several performance factors including payout, slip or lubricity, chemical stability, softening temperature, and of course, efficacy.” (Ex. 1057 at [0052].) With this knowledge, a POSA would have been dissuaded from seeking to modify Lesniak’s few stable compositions, and also would not have had a reasonable expectation of success in any such modification. (Ex. 2011 at ¶ 109.)

Second, Petitioner’s arguments with respect to the efficacy of zinc oxide are contradictory. Petitioner claims in Ground 1 that Lesniak’s zinc oxide is a sufficient antimicrobial in a deodorant stick. Then Petitioner claims in Ground 2 (in relation to Phinney, discussed above) and Ground 3 that zinc oxide alone is ineffective as an antimicrobial, so the POSA would have been motivated to supplement or replace it. A POSA would have either recognized that Lesniak alone created a complete and efficacious deodorant stick with zinc oxide as an antimicrobial (Ground 1, Petition at 20-21), or that Lesniak’s zinc oxide was ineffective for deodorants and should include additional antimicrobials such as triethyl citrate (Ground 3, Petition at 29-31; Ex. 2011 at ¶ 110.) Petitioner cannot have it both ways.

Third, Petitioner does not identify an issue with Lesniak’s triglyceride stability such that a POSA would have been motivated to add triethyl citrate for anti-degradation purposes. (Ex. 2011 at ¶ 111.) This stability argument is based on pure

hindsight. *See TQ Delta, LLC v. CISCO Systems, Inc.*, 942 F.3d 1352, 1361 (Fed. Cir. 2019) (cautioning against “allowing the challenger to use the challenged patent as a roadmap to reconstruct the claimed invention using disparate elements from the prior art—i.e., the impermissible *ex post* reasoning and hindsight bias that *KSR* warned against.”).

For all of these reasons, Petitioner’s combinations do not render obvious the triethyl citrate limitations of each claim challenged in Grounds 3-4.

H. Petitioner Does Not Show That Including Tapioca Starch Was Obvious.
(Grounds 3-4, Claims 15-19)

Independent claims 15, 18, and 19 require a “starch,” and dependent claim 16 requires that starch to be “tapioca starch.” Petitioner contends Lesniak discloses the starch limitations, yet ignores Lesniak’s teachings in Table 2 regarding the instability of its compositions. (*See* Petition at 35-36; Ex. 1003 at Table 2.) In fact, the only composition Lesniak discloses containing starch (as tapioca starch), is sunscreen

Composition 7, which failed across the board as to stability, “whitening” acceptability, and dispensing acceptability:

TABLE 2											
Sunscreens.											
	Composition#										
	1*	2*	3*	4*	5*	6*	7*	8	9*	10*	11
	Weight %										
Zinc Oxide	20	20	20	20	20	20	20	20	20	20	20
Sunflower oil	57	30	10	10	10	10	10	10	10	10	12.5
Caprylic/Capric Triglyceride	5	35	55	53	53	54	54	53	53	50	52
Beeswax	13	15	15	17	17	15	15	15	15	15	13.5
Shea butter	5	0	0	0	0	0	0	0	0	0	0
CastorWax MP80 hydrogenated castor oil	0	0	0	0	0	0	0	2	0	0	2
Tapioca starch	0	0	0	0	0	0	1	0	0	0	0
Cetyl Alcohol	0	0	0	0	0	0	0	0	2	0	0
Thickener silica	0	0	0	0	0	1	0	0	0	0	0
Natural jelly SP511	0	0	0	0	0	0	0	0	0	5	0
Total	100	100	100	100	100	100	100	100	100	100	100
Freeze/thaw stability	F/T	F/T	F/T	F/T	F/T	F/T	F/T	F/T	F/T	F/T	F/T
	3	3	3	3	3	3	3	3	3	3	3
	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
High temp. stability (49° C.)	Fail	Fail	Fail	Fail	Fail	Fail	Fail	Pass	Fail	Fail	Pass
“Whitening” acceptability	No	No	Yes	Yes	Yes	No	No	Yes	No	No	Yes
Dispensing acceptability	No	No	No	No	No	No	No	Yes	No	No	Yes
Greasiness/after-feel acceptability	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes

*denotes comparative composition.

(Ex. 1003 at Table 2.) Petitioner and its expert are silent as to the instability of Lesniak’s only composition containing tapioca starch (or any starch). (See Petition at 36; Ex. 1002 at ¶ 94.) A POSA would have understood that Lesniak does not disclose or enable stable deodorant sticks containing starches, including for the reasons discussed above. (Ex. 2011 at ¶ 113.)

Petitioner’s Lesniak-based grounds directed to claims 15-19 fall short for this additional reason.

**I. A POSA Would Not Have Added Arrowroot Powder to Lesniak or Had a Reasonable Expectation of Success in Doing So.
(Ground 4, Claim 17)**

Claim 17 requires the use of “arrowroot powder” as the “starch” from claim 15. Petitioner contends that Easy Homemade discloses the use of arrowroot powder in deodorants, and that a POSA would have been motivated to include arrowroot powder as a starch for its “thickening and absorbing properties.” (Petition at 36).

As an initial matter, Petitioner has not sufficiently established that Easy Homemade is prior art that would have been publicly accessible to a POSA. Simply because a document is archived on the Internet Archive’s Wayback Machine does not qualify it as publicly accessible prior art for an IPR challenge, even when accompanied by a standard affidavit from the Internet Archive. *First Solar Inc. v. Rovshan Sade*, IPR2023-00827, Paper 13 (P.T.A.B. Nov. 16, 2023). Like the Petitioner in *First Solar*, Petitioner here does not provide any evidence that interested persons exercising reasonable diligence would have been able to locate Easy Homemade at the time of the priority date of the challenged patent, such as “evidence, or even argument, that [the] webpage was ‘indexed... (through search engines or otherwise)’ and thus locatable by a search engine.” *See id.* at 18.

Petitioner’s only “evidence” of alleged public accessibility is a statement from its expert that Easy Homemade was a “part of a series of related ‘Soap Deli News’ articles... with significant engagement from individuals globally” (Ex. 1002 at

¶ 187), where she cites three different “Soap Deli News” posts in apparent support. These additional blogposts do nothing to show the public accessibility of the specific Easy Homemade blogpost on which Petitioner relies, at any time before the priority date of the challenged patent. Since Petitioner fails to establish Easy Homemade as a publicly accessible printed publication to the POSA as of the critical date, Petitioner’s grounds based on Easy Homemade are meritless.

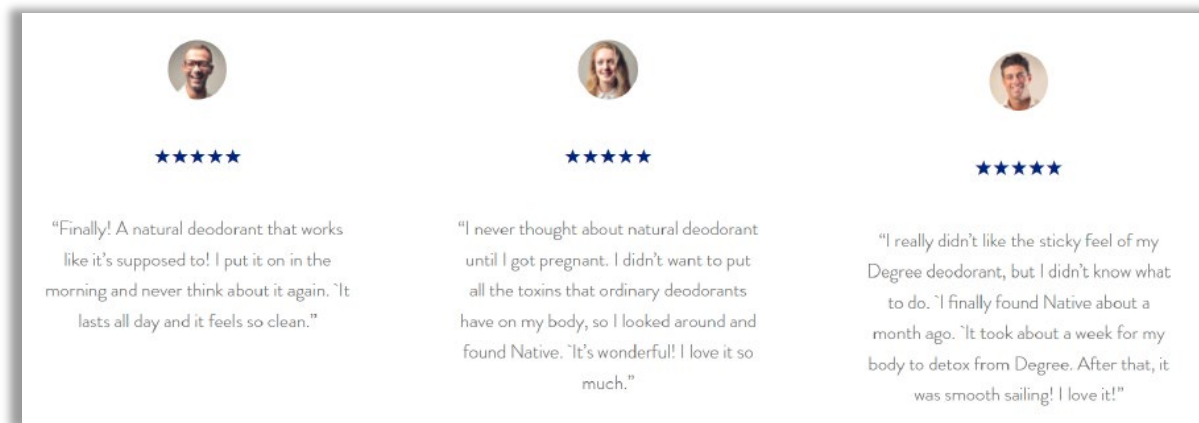
Furthermore, Petitioner does not identify any deficiency in Lesniak that would have motivated a POSA to introduce arrowroot powder for “thickening and absorbing properties.” (Petition at 36.) Petitioner has also argued that Lesniak was a “complete deodorant stick[] that did not require additional ingredients.” (Petition at 21, 23.) Thus, Petitioner offers no more than hindsight bias. (Ex. 2011 at ¶¶ 114-116.)

VI. PETITIONER’S NATIVE-BASED GROUNDS ARE SIMILARLY UNCONVINCING

Petitioner’s Native-based grounds also do not render obvious the challenged claims. In these grounds, Petitioner first combines Native with Bianchi-254 (Ground 5), and then adds Easy Homemade (Ground 6). Next, Ground 7 is a five-reference combination that introduces Anconi and Stoia. Finally, Ground 8 is a six-reference combination adding Millet. These combinations are unsupportable on both the facts and the law, for the independent reasons described below.

**A. A POSA Would Have Had No Reason to Modify Native
(Grounds 5-8: All Claims)**

As an initial matter, Petitioner provides no legitimate reason for the POSA to have modified Native at all. According to Petitioner, Native lists the ingredients of a commercially available deodorant stick that had “reached internet fame” by 2017. (Petition at 39; Ex. 1010.) The Native exhibit contains uniformly positive reviews from customers:



(Ex. 1007 at 8; Ex. 2011 at ¶ 119.) Petitioner’s expert agrees there is nothing in the Native reference that indicates a problem with the Native stick. (Ex. 2012 at 117:15-118:14.). With this level of consumer acceptance and praise, and no identified issues or concerns, there was no reason for a POSA to have sought to modify Native. Petitioner’s attempts to manufacture so-called motivations are based on improper hindsight and must be rejected. *See TQ Delta*, 942 F.3d at 1361. In addition to this foundational defect of all of Petitioner’s Native grounds, each combination has additional flaws, discussed in turn below.

B. The Combination of Native and Bianchi-254 Does Not Support a Case of *Prima Facie* Obviousness.
(Grounds 5-8: All Claims 1-19)

As with Petitioner's proposed combination of Lesniak and Bianchi-254, the proposed combination of Native and Bianchi-254 is also improper and does not support a *prima facie* case of obviousness for the same reasons. The Native reference advertises and markets to consumers an aluminum-free deodorant product containing natural ingredients. (Ex. 1007.) In contrast, Bianchi-254 discloses compositions comprising, together, up to 50% or more of a volatile silicone and aluminum-containing antiperspirant active. (See Ex. 1008 at [0042], Tables 1, 5; Ex. 2012 at 108:10-14.) The POSA would not have been motivated to consider the teachings of Bianchi-254 in combination with Native, as Bianchi-254's prominent use of non-natural ingredients and aluminum would defeat the core objective of Native to provide aluminum-free, natural deodorant products. (Ex. 2011 at ¶ 118.) See *In re Fritch*, 972 F.2d at 1265; *In re Gordon*, 733 F.2d at 902.

C. Petitioner's Hardness Challenge Is Again Wholly Deficient.
(Grounds 5-8: All Claims 1-19)

Just like the Lesniak-based grounds, Petitioner fails to show its Native combinations disclose the hardness range required by all claims.

1. *Neither Native nor Bianchi-254 Disclose a Stick of the Claimed Hardness.*

None of the references cited in Petitioner's Native-based grounds disclose a deodorant stick with the claimed hardness. Petitioner admits Native "does not disclose the hardness of the deodorant stick," as required by all claims of the '752 Patent, and its expert agrees. (Petition at 39; Ex. 2012 at 114:1-3.) Petitioner thus adds Bianchi-254, claiming "it would be obvious to formulate a deodorant stick such as the stick disclosed by Native using [the] hardnesses as taught by Bianchi '254," which allegedly "establish[es]... that the claimed hardness range was standard." (Petition at 39.)

Petitioner's combination does not support a *prima facie* case of obviousness for the reasons already provided, but further, Petitioner relies on the same false equivalence of Bianchi-254's hardness measurements described above with regard to Petitioner's Lesniak and Bianchi-254 combination. In short, Bianchi-254's hardness measurements result from use of a 100-g total load needle assembly, which is twice the total load used by the '752 Patent's needle assembly. (Ex. 2011 at ¶¶ 120-121.) For the same reasons explained above, if the Bianchi-254 compositions were tested using the method of the '752 Patent, the hardness values would be much lower. (*Id.*) Thus, Bianchi-254's desired range actually indicates *significantly harder* sticks than those claimed in the '752 Patent. (*Id.*) Put another way, Petitioner has not cited *any reference* disclosing the hardness range as

measured by the test defined in the '752 Patent, and thus no reference with the hardness range specified in every claim of the '752 Patent. (*Id.*) This alone is fatal to all of Petitioner's Native-based grounds.

2. *Even if the Claimed Hardness Range Was Taught by Bianchi-254 (It Was Not), Petitioner's Argument Still Fails.*

Even if the hardness ranges of Bianchi-254 and the '752 Patent were overlapping (which Petitioner cannot show), Petitioner's argument still fails for several additional reasons.

First, given Native's silence as to hardness, Petitioner's argument that a POSA would have modified Native—whether through so-called routine optimization or via Petitioner's proposed combination with Bianchi-254—starts from a false premise. A POSA looking at the Native reference would have had no indication whether Native discloses a deodorant that is either too hard or too soft as compared to the hardness range recited in the challenged claims. (Ex. 2011 at ¶ 123.) And as a result, a POSA would not have known which ingredients to alter or by how much. (*Id.*)

Second, Bianchi-254 expressly ties its hardness disclosure to the inventive formulations it discloses, stating that in “embodiment[s] of interest,” it is “desirable” that the antiperspirant stick compositions have that particular hardness. (Ex. 1008 at [0026].) As Bianchi-254 makes clear, all of its antiperspirant formulations contain

aluminum and silicones—ingredients forbidden by most or all claims of the ’752

Patent:

TABLE 1											
<u>Antiperspirant Formulations</u>											
COMPONENT (wt. %)	FORMULATION NO.										
	1	2	3	4	5	6	7	8	9	10	11
Castor Wax (mp 80° C.)	3.5	4	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4	4
Stearyl Alcohol (mp 60°)	18	18	20	18	18	18	18	18	18	18	18
Polyethylene (400 mw; mp 82–84° C.)	0.3	0.5	0.5	0.5	0.5	1	1	1	1	1	1
Silica	0.3			0.3	0.3			0.5	0.5	0.75	1
PPG-14 Butyl Ether	20	5	5	20	20	9.5	15	15	25	31.25	8
C12–C15 Alkyl Benzoate (Finsolv TN)	5	20	18	5	5	15	23.5	23	13	8	31
Dimethicone, 50 cst; (Dow Corning 200)	1	1	1	1	1	1	1	1	1	1	1
Sunflower Oil	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Talc				3.5	2						2.5
AAZG (17.8%)	24	20	20	20	20	20	24	24	24	24	24
Fragrance	1	1	1	1	1	1	1	1	1	1	1
BHT (butylated hydroxytoluene)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Cyclomethicone; (Silicone 245; Dow Corning)	26.35	29.95	30.45	26.65	28.15	30.45	12.45	12.45	12.45	10.45	7.95

TABLE 5									
<u>Antiperspirant Stick Formulations</u>									
COMPONENT (wt. %)	FORMULATION NO.								
	12	13	14	15	16	17	18	19	
Castor Wax (mp 80° C.)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
Stearyl Alcohol (mp 60°)	18	18	18	18	18	18	18	18	
Polyethylene (400 mw; mp 82–84° C.)	1	1	1	1	1	1	1	1	
Steareth 100	0.5	0.5	0.5	0.5	—	—	0.5	—	
PPG-14 Butyl Ether	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	
C12–C15 Alkyl Benzoate (Finsolv TN)	15	15	15	15	15	15	15	15	
Dimethicone, 50 cst (Dow Corning 200)	1	1	1	1	1	1	1	1	
Sunflower Oil	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
AAZG (17.8%)	20	20	20	20	30	24	20	24	
Fragrance	1.25	1.25	1.25	1.25	1	1	1.25	1	
Fragrance Encapsulate							1.5	1.5	
BHT (butylated hydroxytoluene)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	
Cyclomethicone (Silicone 245; Dow Corning)	28.7	27.7	28.2	29.7	20.45	26.45	28.2	24.95	
Cyclodextrin	1	2	1.5						

(Ex. 1008 at Tables 1, 5; *see also id.* at [0033] (defining AAZG as “an aluminum zirconium tetrachlorohydrate complex with glycine”).) Petitioner’s expert agrees that each of these formulations contain aluminum and silicones. (Ex. 2012 at

108:10-17.) The Petition is silent on Bianchi-254’s use of aluminum and silicones, and neither Petitioner nor its expert explain how, or whether, a POSA could have achieved the hardness of Bianchi-254, let alone the hardness of the ’752 claims, in an aluminum- and silicone-free deodorant composition. (Ex. 2011 at ¶ 124.)

Third, a POSA would not have had a reasonable expectation of success in reformulating Native to achieve the purported hardness of Bianchi-254 (which, again, is significantly harder than the claimed range). (*Id.* at ¶ 125.) A POSA would have appreciated that Native’s ingredient list suggests it is an anhydrous, wax-structured semisolid with a triglyceride-based carrier system, similar to Lesniak’s examples, where even the slightest change in ingredients yields unstable and unusable compositions. (*Id.*; *see also* Ex. 1003 at Table 2.)

For these additional reasons, compounded with Petitioner’s threshold failing to cite a single reference that discloses the claimed range, Petitioner does not show its Native-based grounds render obvious the hardness limitation of all claims.

D. A POSA Would Not Have Implemented Bianchi-254’s Weight Percentages With Any Success
(Grounds 5-8: All Claims)

An additional issue with the Native combinations lie with implementing Bianchi-254’s weight percentages. Specifically, Petitioner admits Native “does not expressly teach the percentage of each ingredient used,” but contends Bianchi-254 “establish[es] that the claimed concentrations of ingredients were conventional and

that the claimed hardness range was standard.” (Petition at 39.) This argument misses the mark.

A POSA seeking to develop an aluminum-free and silicone-free deodorant stick (both of which are required by the challenged claims), would not have been motivated to implement the weight percentages disclosed in Bianchi-254, which describes and claims antiperspirant formulations containing about 50% or more by weight of aluminum and volatile silicones. (Ex. 2011 at ¶¶ 127-128.) The Petition ignores Bianchi-254’s inclusion of these ingredients, despite its sole reason for combining Native and Bianchi-254 hinging on it: “In making a *natural, aluminum-free* deodorant stick composition, a POSA would have looked to existing compositions, such as Native” and would look at other “suitable examples” such as Bianchi-254, which “would have been of particular use for a POSA looking for percentages to use for Native’s formulation.” (Petition at 39-40.)

Yet Bianchi-254 does not disclose a “natural, aluminum-free deodorant stick.” Petitioner fails to reconcile this with its supposed motivation to combine. The Petition does not explain what would have motivated a POSA to have implemented the weight-percentages from a non-natural antiperspirant stick into the natural, aluminum-free stick of Native (if it is even possible), or what a POSA would have substituted for aluminum and volatile silicone in order to preserve the same weight percentages without the presence of the aluminum active and silicones. (Ex. 2011

at ¶ 129.) Nor does the Petition explain how a POSA would have had a reasonable expectation of success in implementing Bianchi-254’s teachings while maintaining a stable composition. (*Id.*)

For this additional reason, Petitioner has not shown the Native-based grounds disclose or render obvious the challenged claims.

E. A POSA Would Not Have Added Easy Homemade’s Magnesium Hydroxide to Native or Had a Reasonable Expectation of Success in Doing So.
(Ground 6: Claims 2-3; Grounds 7-8: Claims 15-19)

Claims 2-3 challenged in Ground 6, and claims 15-19 challenged in Grounds 7-8, all require the presence of magnesium hydroxide, which Petitioner admits is not present in Native. Petitioner thus adds Easy Homemade for this element, arguing “[a] POSA would have known ...that deodorants containing baking soda (Native’s antimicrobial) could cause skin irritation for some users” (Petition at 50-51.) Thus, Petitioner invokes the Easy Homemade hobbyist blog, which allegedly teaches that magnesium hydroxide “could be used to replace baking soda as an antimicrobial ... and it works just as well,” or could be used “to reduce the amount of baking soda in Native’s composition.” (Petition at 51.) But Petitioner cannot show that a POSA would have been motivated to reformulate the Native reference to replace baking soda with magnesium hydroxide, or would have reasonably expected success in doing so. (Ex. 2011 at ¶ 131.)

Initially, as explained above, Petitioner has not established that Easy Homemade is prior art that would have been publicly accessible to a POSA. *See First Solar*, IPR2023-00827, Paper 13 at 18.

Further, Petitioner’s argument evinces a fundamental misunderstanding of Easy Homemade. Petitioner contends Easy Homemade teaches a POSA how to use “magnesium hydroxide as a *substitute* [for] baking soda,” but Easy Homemade does not actually teach the removal and substitution of baking soda. (*See* Petition at 51.) Rather, the Easy Homemade hobbyist tells her followers to purchase a pre-made baking-soda-free deodorant base—a base Petitioner’s expert could not identify the ingredients of—and add some magnesium hydroxide powder to it. (Ex. 1009 at 7; *see* Ex. 2012 at 120:6-8 (Q: “Do you know what natural deodorant base she’s starting with?” A: “At this stage I’m not sure.”; Ex. 2011 at ¶ 132.)) As Petitioner’s expert confirms, Easy Homemade “doesn’t talk about removing any ingredients from these sticks; she’s talking about adding ingredients.” (Ex. 2012 at 121:1-9.)

Further, Petitioner fails to adequately show why a POSA would have been motivated to look at the amateur Easy Homemade soap blog in the first place, or why a POSA would have found it necessary to modify the already-commercialized Native product. Petitioner claims baking soda can be a skin irritant, but the Native webpage also shows that its formulation includes shea butter and coconut oil, which a POSA would have understood to have anti-inflammatory and healing properties

for skin. (Ex. 1007 at 15; Ex. 2011 at ¶ 133.) The Native reference also contains positive reviews from its users, none of which discuss experiencing any skin irritation. (Ex. 1007 at 17.)

Petitioner does not show any issue with the cited Native formula that would have motivated a POSA to modify it, and also does not provide any rationale behind a POSA's alleged selection of magnesium hydroxide to replace Native's baking soda, apart from hindsight. (Ex. 2011 at ¶¶ 133-134.) As Petitioner's expert confirms, there are many different antimicrobial options a POSA could have chosen if it wished to remove baking soda from Native, and Petitioner provides zero reasoning as to why a POSA would have selected magnesium hydroxide specifically. (*See* Ex. 2012 at 52:9-54:18.) Rather than a motivation to combine, Petitioner offers only hindsight based on a "roadmap" of the '752 Patent's successful formula. *See TQ Delta*, 942 F.3d at 1360-62.

Finally, even if a POSA would have been motivated to modify the cited Native product and replace baking soda with magnesium hydroxide, a POSA would not have had a reasonable expectation of success in any such modification. As explained above, a POSA would have understood and appreciated that compositions like Native are delicate. (Ex. 2011 at ¶ 135; *see also* Ex. 1003 at Table 2.) As Lesniak explains, even the slightest changes in these types of formulas, to the degree of a single weight percent, may yield unstable results. (Ex. 2011 at ¶135.) A POSA

would have understood the instability that could result from a reformulation of Native, and thus would not have had a reasonable expectation of success in modifying Native to incorporate the teachings of Easy Homemade on magnesium hydroxide. (*Id.*)

Petitioner does not articulate a rational motivation to combine Native and Easy Homemade with any reasonable expectation of success, so again, the Native-based grounds fail as to claims 2-3 and 15-19.

F. A POSA Would Not Have Added Triethyl Citrate or Sunflower Seed Oil to Native.
(Grounds 7-8: Claims 15-19)

In Ground 7, Petitioner argues that a POSA would have been motivated to “reduc[e] or eliminat[e]” baking soda from the Native reference and include triethyl citrate from Anconi in its place. Petitioner also argues that a POSA would have been motivated to include Stoia’s sunflower seed oil in the Native reference as an “alternative” emollient associated with “positive skin effects.” Both of these modifications are based on hindsight.

Triethyl Citrate (Native et al. + Anconi). Initially, Native and Anconi are directed to different stick technologies, with Native employing an anhydrous, wax-structured, triglyceride-based system, while Anconi discloses an aqueous propylene glycol- and/or alcohol-based mixture solidified, for example, by sodium stearate. (Ex. 1057 at [0049]; Ex. 2011 at ¶ 138.) A POSA would not have been motivated

to reformulate Native in the first place, let alone reformulate Native in accordance with the teachings of an entirely different stick technology. (Ex. 2011 at ¶ 138.) Indeed, as discussed above, the product reviews are uniformly positive, showing no need “to improve [Native’s] ability to combat odor.” (Petition at 55; Ex. 2011 at ¶ 138.)

A POSA also would not have been motivated to modify Native given the POSA’s knowledge of stability issues discussed above. Anconi similarly warns that “[s]ticks and solids are really complex chemical systems requiring a balance of ingredients designed to make the most of several performance factors including payout, slip or lubricity, chemical stability, softening temperature, and of course, efficacy.” (Ex. 1057 at [0052].) With this knowledge, a POSA would have been dissuaded from seeking to modify Native, and also would not have had a reasonable expectation of success in any such modification. (Ex. 2011 at ¶ 139.) Petitioner thus provides no compelling reason for a POSA to modify the Native reference to include triethyl citrate.

Furthermore, Petitioner argues that a POSA would have been motivated to “incorporate triethyl citrate as an antimicrobial in Native’s deodorant compositions to improve their ability to combat odor after reducing or eliminating the baking soda in the formulation to avoid skin irritation issues.” (Petition at 55.) But Petitioner already argues elsewhere in the Grounds that a POSA would have utilized

magnesium hydroxide from Easy Homemade to “reduc[e] or eliminat[e]” baking soda from Native, making this so-called reason for adding triethyl citrate nonexistent. (Petition at 55-56.) Petitioner does not provide any references disclosing a combination of both magnesium hydroxide and triethyl citrate as a replacement for baking soda or otherwise, or identify a problem with magnesium hydroxide that would call for an *additional* antimicrobial, and as such does not describe why a POSA would be motivated to include both. (Ex. 2011 at ¶ 140.)

Petitioner also argues that a POSA would incorporate triethyl citrate because it was known to “prevent the degradation of triglycerides in compositions for topical use.” (Petition at 55.) But Petitioner does not identify any issue with Native that would indicate a triglyceride-degradation problem, let alone one that would require a reformulation to add an additional ingredient for its alleged anti-degradative properties. (Ex. 2011 at ¶ 141.)

Only hindsight would have motivated a POSA to include triethyl citrate. *See TQ Delta*, 942 F.3d at 1360-62.

Sunflower Seed Oil (Native et al. + Stoia). Neither would a POSA have been motivated to include sunflower seed oil in the Native reference absent hindsight. Petitioner argues that a POSA “would have been motivated to include sunflower seed oil in Native’s deodorant stick for its emollient properties and association with ‘positive skin effects.’” (Petition at 56). This motivation is belied by Petitioner’s

expert, who confirmed Stoia does not include any disclosure of sunflower seed oil use in a deodorant stick. (Ex. 2012 at 128:20-129:2; Ex. 2011 at 142.)

Moreover, Petitioner argues that “Native ... discloses the use of tocopherol (Vitamin E) ... [and] Stoia teaches that tocopherols are ‘abundant in sunflower seeds’ and have antioxidant properties.” (Petition at 56). In recognizing that Native already contains tocopherol and its accompanying “antioxidant properties,” Petitioner identifies no reason that a POSA would have additionally included sunflower seed oil for tocopherol. (Ex. 2011 at ¶ 143.) Neither would a POSA have been motivated to modify Native at all, as described above, given that Petitioner identifies only positive reviews of the Native stick and does not show any need for “positive skin effects” beyond those already provided by existing ingredients. (Ex. 2011 at ¶ 143.)

Petitioner also argues that a POSA would have reasonably expected success in “simply reduc[ing] if necessary” Native’s concentration of coconut oil in favor of sunflower seed oil given that both are plant oil-derived emollients. (Petition at 56-57.) This is unsupported. Petitioner does not explain why a POSA would have been motivated to swap out coconut oil for sunflower seed oil or grapple with any characteristics lost by removing coconut oil. (Ex. 2011 at ¶ 144.) Neither does Petitioner explain why this substitution would have been desirable generally,

especially because it would simply add more tocopherol (through sunflower seed oil) to Native's existing tocopherols. (Ex. 1007 at 11; Ex. 2011 at ¶ 144.)

Petitioner's combination fails to render obvious the challenged claims.

G. Petitioner Fails to Show Why a POSA Would Have Added Tapioca Starch Without Hindsight and with a Reasonable Expectation of Success.
(Ground 8: Claim 16)

Petitioner's Ground 8 challenge of dependent claim 16, which requires the deodorant stick's "starch" to comprise "tapioca starch," also falls short. Petitioner contends this limitation is disclosed by the *six-reference* combination of Native, Bianchi-254, Easy Homemade, Anconi, Stoia, and Millet. According to Petitioner, a POSA would have been motivated to add Millet to this combination because "a POSA would have known that sweat and moisture in the axillary give rise to odor-causing bacteria and would have looked to publications in the field of deodorants describing natural fillers that were effective in absorbing moisture and sweat." (Petition at 61.) Once again, Petitioner falls prey to hindsight bias.

Petitioner has not identified any problem with Native that would have motivated a POSA to reformulate it, let alone with the specific tapioca-starch modification contemplated in Ground 8. Petitioner's sole reason for the starch addition is to "absorb moisture and sweat," but as a POSA would have appreciated, Native already has ingredients that serve those functions, for example, arrowroot

powder. (Petition at 36 (describing “usefulness of arrowroot in deodorant sticks,” which is “effective in absorbing moisture and sweat”); Ex. 2011 at ¶ 147.)

The Petition is bereft of any showing as to why a POSA would have desired to include an extra “filler” in Native, or how a POSA would have done so while maintaining the proper stick properties, stability, and integrity. (*See id.* at ¶ 148; Ex. 1003 at Table 2.) For example, Petitioner does not explain how or whether a POSA would have implemented Millet’s so-called “filler” while also reaching the hardness required by all claims. (Ex. 2011 at ¶ 148.) Petitioner also does not explain which ingredients from Native a POSA would have modified or removed to make room for Millet’s tapioca starch. (*Id.*) And of course, as above, Petitioner again fails to account for the fragility of these compositions, erroneously insisting a POSA could have added and subtracted ingredients at whim and ended up with a usable and stable deodorant stick. Not so. (*Id.*)

Petitioner’s Native-based grounds also fail as to dependent claim 16 for this additional reason.

VII. PETITIONER’S SQUATCH-BASED GROUND ALSO FAILS

Petitioner’s Ground 9 combines an uncorroborated, interested employee declaration (Squatch) with a publication (Sturgis) that is not prior art.

A. Squatch Is Not a “Printed Publication.”

The Board correctly recognized in its institution decision that Squatch (Ex. 1059) is an uncorroborated employee declaration showing images of deodorants without any information properly linking them to a website publicly available in November 2020; as such, it is not a “printed publication.” IPR2024-01498, Paper 9 at 28-31.

Squatch is an employee declaration purporting to include images of Dr. Squatch-branded products at a launch date in November 2020. Exhibit A to the declaration includes photos of three different deodorants, which the declarant alleges “appeared on Dr. Squatch’s publicly-accessible website ... upon their launch in November 2020.” (Ex. 1059 at ¶ 4.) But the declaration does not include *any* screenshots of the webpage at the purported product launch date, and fails to show that these Exhibit A images were available and on said webpage at the critical time. (*See* Ex. 2011 at ¶¶ 150-51.)

Petitioner’s declarant relies on an internal marketing document, a Shopify timestamp in source code, and an internal quality assurance feedback document allegedly prepared in advance of the website launch. (Ex. 1059 at ¶ 5.) *But none of these sources show the images in Exhibit A published on the website.* Petitioner thus does not point to any “printed publication” from November 2020 with those images, and cannot establish those images as publicly accessible prior art at that time.

A reference is considered “publicly accessible” only if the party shows it was “disseminated or otherwise made available to the extent that persons interested and ordinarily skilled in the subject matter or art exercising reasonable diligence[] can locate it.” *Kyocera Wireless Corp. v. ITC*, 545 F.3d 1340, 1350 (Fed. Cir. 2008); *Activision Blizzard, Inc. v. Acceleration Bay, LLC*, IPR2015-01951, Paper 107 at 10-11 (P.T.A.B. Mar. 23, 2017). “[T]he burden is on the [P]etitioner to identify with particularity evidence sufficient to establish a reasonable likelihood that the reference was publicly accessible...” *Hulu, LLC v. Sound View Innovations, LLC*, IPR2018-01039, Paper 29 at 16 (P.T.A.B. Dec. 20, 2019).

Petitioner does not meet this burden and provides no evidence that the images in Ground 9 were actually on the website. Instead, Petitioner relies on uncorroborated, biased testimony from an employee that the images are “true and correct copies” of what was online in November 2020. This is not enough.

Petitioner fails to corroborate the declarant’s testimony that the same images of the products from Exhibit A were published on the Dr. Squatch website. Without the November 2020 webpage, Petitioner does not have a Squatch “printed publication” to use as prior art. On this basis alone, Ground 9 should be denied.

B. Sturgis Is Not Prior Art.

Further, the Sturgis reference is not prior art. Claims 15-19 have adequate written description support in the ’752 Patent’s priority application (the “’437

Application,” which later issued as the ’999 patent (Ex. 1074)) to secure their priority claim.

Petitioner argues the ’437 Application provides no “blaze marks” for a POSA to find support for the claimed ingredients. (Petition at 13.) But the ’437 Application sufficiently describes the ingredients in the ’752 Patent’s claimed formulas by explicitly disclosing each of them in the specification, explaining reasons for choosing them, and by otherwise relying on the background knowledge of a POSA, all of which conveyed that the inventor was in possession of the claimed invention. (Ex. 2011 at ¶ 153; *e.g.*, Ex. 1074 at 5:6-11, 5:53-65, 6:24-25, 6:47-50, 6:59-7:6, 7:7-19, 8:15-35, 8:36-46, Tables 1-2, cls. 1, 14.) In arguing otherwise, Dr. Squatch cites *Purdue*—an inapposite, unpublished case. (Petition at 13-14.) Instead, *Allergan USA, Inc. v. MSN Lab’ys Priv. Ltd.*, 111 F.4th 1358 (Fed. Cir. 2024) is more instructive.

In *Allergan*, the Federal Circuit distinguished “blaze marks” cases as those where the claims “recite a species where the specification describes only a genus.” 111 F.4th at 1372. The court contrasted those precedents, noting the *Allergan* claims at issue were “narrow... in that they recite specific ingredients” and also that “the written description generally matches the scope of the claims,” specifically because “each of the expressly recited ingredients” was “adequately disclosed in the specification.” *Id.* Here, as in *Allergan*, the ’752 Patent and its priority application

do more than simply disclose a genus and leave a POSA wondering what species may be included—they explicitly list out the ingredients in the specification and explicitly claim them in claims 15-19. *Id.*

The '437 Application provides disclosure of each claimed ingredient, and a POSA would have known that these ingredients could be selected per their background knowledge and in light of the specification, which describes a number of embodiments and methods for making the claimed deodorant sticks. *See Union Oil Co. of California v. Atl. Richfield Co.*, 208 F.3d 989, 997 (Fed. Cir. 2000) (“[T]his court’s case law require only sufficient description to show one of skill in the refining art that the inventor possessed the claimed invention at the time of filing.”) Petitioner does not seriously argue that a POSA would not have known how to create additional embodiments of the '752 claimed invention in view of the '437 Application’s teachings. Because claims 15-19 have adequate written description support in their priority application, Sturgis is not prior art.

C. A POSA Would Not Have Been Motivated to Combine Squatch With Sturgis.

Putting aside that the references are not prior art, Petitioner erroneously argues that a POSA would have been motivated to combine Squatch with Sturgis because Squatch does not disclose the quantitative amounts of any ingredients. (Petition at 63-64.) But like above, Petitioner’s motivation to combine arguments are

conclusory and based in hindsight, and should be rejected. *See TQ Delta*, 942 F.3d at 1361. (Ex. 2011 at ¶¶ 154-156.)

VIII. CONCLUSION

For the reasons set forth above, the challenged claims of the '752 Patent are not unpatentable.

Respectfully submitted,

Date: July 7, 2025

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CERTIFICATE OF WORD COUNT

Pursuant to Rule 37 C.F.R. 42.24(d), the undersigned hereby certifies that, based upon the word count of the word-processing system used to prepare this Response, the number of words in this Response is 13,993.

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CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. 42.6(e), I certify that I caused to be served on the counsel for Petitioner a true and correct copy of the foregoing by email on July 7, 2025, at the following address:

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