

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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**Chongqing Yanmei Technology Co., LTD,**  
Petitioner,

v.

**Terves, LLC,**  
Patent Owner.

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IPR2023-00521  
U.S. Patent No. 10,689,740

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PATENT OWNER'S REPLY TO OPPOSITION  
TO CONTINGENT MOTION TO AMEND

TABLE OF CONTENTS

|                                                                                                                                                                        |     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| TABLE OF AUTHORITIES .....                                                                                                                                             | ii  |
| EXHIBIT LIST .....                                                                                                                                                     | iii |
| I. INTRODUCTION .....                                                                                                                                                  | 1   |
| II. THE PROPOSED CLAIMS, BASED ON CLAIMS 76-81 THAT<br>THE BOARD FOUND ARE SUPPORTED BY DOUD ARE<br>DEFINITE .....                                                     | 2   |
| <u>1. A POSITA would readily understand the scope and meaning of<br/>terms in situ precipitate and in situ galvanically-active intermetallic<br/>precipitate</u> ..... | 2   |
| <u>2. A POSITA would readily understand the scope and meaning of<br/>terms dissolvable magnesium cast composite or magnesium composite</u> .....                       | 4   |
| <u>3. Petitioner’s argument related to cobalt and upper boundary limits<br/>runs contrary to the plain language of the claims</u> .....                                | 6   |
| <u>4. Petitioner has not shown why a POSITA would not understand the<br/>scope of the claimed dissolution rates</u> .....                                              | 7   |
| <u>5. Petitioner’s argument related to the magnesium alloy runs<br/>contrary to the plain language of the claims</u> .....                                             | 7   |
| <u>6. A POSITA would readily understand the scope and meaning of the<br/>recited wt. % ranges even if the combined upper boundaries exceed<br/>100%</u> .....          | 8   |
| III. BECAUSE THE PROPOSED CLAIMS ARE BASED ON CLAIMS<br>76-81, THEY ARE SUPPORTED IN DOUD .....                                                                        | 10  |
| IV. CONCLUSION.....                                                                                                                                                    | 12  |

**TABLE OF AUTHORITIES**

| <b><u>Cases</u></b>                                                                                                                                       | <b><u>Page(s)</u></b> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| <i>Lectrosonics, Inc. v. Zaxcom, Inc.</i> ,<br>Case IPR2018-01129 (Paper 15) (PTAB Feb. 25, 2019) .....                                                   | 2                     |
| <i>Nautilus, Inc. v. Biosig Insts., Inc.</i> ,<br>134 S. Ct. 2120 (2014).....                                                                             | 2                     |
| <i>Ex Parte Peter M. Jacobson</i> ,<br>APPEAL 2013-001502 (PTAB May 22, 2015).....                                                                        | 2, 3                  |
| <i>Energizer Holdings Inc. v. Int'l Trade Comm'n</i> ,<br>435 F.3d 1366 (Fed. Cir. 2006) .....                                                            | 3                     |
| <i>Ex Parte Sophie Viala, Andreas Clausen, Celina Storbeck, Mirko<br/>Tesch, &amp; Kerstin Skubsch</i> , APPEAL 2014-001627 (PTAB Oct. 20,<br>2016) ..... | 9                     |
| <i>In re Kroekel</i> ,<br>504 F.2d 1143 (CCPA 1974) .....                                                                                                 | 10                    |
| <i>Ariad Pharm., Inc. Eli Lilly &amp; Co.</i> ,<br>598 F.3d 1336 (Fed. Cir. 2010) (en banc) .....                                                         | 11                    |
| <i>Vas-Cath Inc. v. Mahurkar</i> ,<br>935 F.2d 1555 (Fed. Cir. 1991) .....                                                                                | 11                    |
| <b><u>Statutes</u></b>                                                                                                                                    |                       |
| MPEP § 2111 .....                                                                                                                                         | 1, 4                  |

**EXHIBIT LIST**

| <b>Exhibit</b> | <b>Description</b>                                                                                                                                                    |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2001           | Declaration of Mark Cohen                                                                                                                                             |
| 2002           | Cohen Resume                                                                                                                                                          |
| 2003           | EO13817                                                                                                                                                               |
| 2004           | EO13953                                                                                                                                                               |
| 2005           | EO14017                                                                                                                                                               |
| 2006           | Komesaroff, Make the Foreign Serve China                                                                                                                              |
| 2007           | Declaration of Andrew Sherman                                                                                                                                         |
| 2008           | Disclaimer in Patent under 37 CFR 1.321(a)                                                                                                                            |
| 2009           | Electronic Acknowledgement Receipt of Ex. 2008.                                                                                                                       |
| 2010           | <i>Terves, LLC v. Yueyang Aerospace New Materials Co. Ltd. et al.</i> , Case No. 1:19-cv-1611 (N.D. Oh.), ECF 134, Terves Motion for Summary Judgment                 |
| 2011           | <i>Terves, LLC v. Yueyang Aerospace New Materials Co. Ltd. et al.</i> , Case No. 1:19-cv-1611 (N.D. Oh.), ECF 134-21, Ecometal Invalidity Contentions                 |
| 2012           | <i>Terves, LLC v. Yueyang Aerospace New Materials Co. Ltd. et al.</i> , Case No. 1:19-cv-1611 (N.D. Oh.), ECF 144, Defendants Response to Motion for Summary Judgment |
| 2013           | <i>Terves, LLC v. Yueyang Aerospace New Materials Co. Ltd. et al.</i> , Case No. 1:19-cv-1611 (N.D. Oh.), ECF 178, Summary Judgement Order                            |
| 2014           | <i>Terves, LLC v. Yueyang Aerospace New Materials Co. Ltd. et al.</i> , Case No. 1:19-cv-1611 (N.D. Oh.), ECF 203, Judgment.                                          |
| 2015           | <i>Terves, LLC v. Yueyang Aerospace New Materials Co. Ltd. et al.</i> , Case No. 1:19-cv-1611 (N.D. Oh.), ECF 219, Permanent Injunction Memorandum Opinion            |
| 2016           | <i>Terves, LLC v. Yueyang Aerospace New Materials Co. Ltd. et al.</i> , Case No. 1:19-cv-1611 (N.D. Oh.), ECF 220, Permanent Injunction                               |
| 2017           | Medlin Declaration during Reexamination                                                                                                                               |
| 2018           | Swanger Declaration during Reexamination                                                                                                                              |
| 2019           | Redline from '653 patent to '740 patent                                                                                                                               |
| 2020           | Application Data Sheet for '740 patent                                                                                                                                |
| 2021           | Specification for '740 patent                                                                                                                                         |
| 2022           | IDS for '740 patent                                                                                                                                                   |
| 2023           | IDS signed for '740 patent                                                                                                                                            |

| <b>Exhibit</b> | <b>Description</b>                                           |
|----------------|--------------------------------------------------------------|
| 2024           | IDS signed (second time) for '740 patent                     |
| 2025           | First Amendment for Ex Parte Reexamination                   |
| 2026           | '740 patent application as originally filed                  |
| 2027           | '838 Doud patent application as originally filed             |
| 2028           | '838 Doud provisional application as originally filed        |
| 2029           | Petitioner request for deposition and related correspondence |
| 2030           | Petitioner notice of deposition                              |

## **I. INTRODUCTION**

Terves submitted a contingent Motion to Amend (Paper 19). Petitioner submitted an Opposition (Paper 24) that Terves now submits this Reply.

The Board determined that claims 76-81 were entitled to the benefit of the filing date of Doud and Doud is not prior art to these claims. Paper 14 at 13. The Board also was not persuaded that Xu or Xiao in view of Xu rendered the claims unpatentable. Paper 14 at 20, 24-25.

Consistent with the Board's determination and to expedite the IPR, Terves amended the claims in its contingent Motion to Amend include the ranges for the additive material based on claims 76-81. Paper 19. The amendments directly addressed Petitioner's only argument for lack of support in Doud, i.e., that the original claims recited open-ended ranges. The amendments align with the Petitioner's and its expert's original determination of upper boundaries supported in Doud. Paper 2 at 22-24; Ex. 1016 at ¶¶ 41, 44.

Petitioner opposes the motion for two reasons, arguing the proposed claims: (1) are indefinite or fail to further limit a prior claim and (2) are not supported in but are anticipated by Doud. Notably, Petitioner does not argue that the proposed claims are not supported in its own disclosure. Rather, Petitioner only presents formality objections. Petitioner also does not make any arguments of unpatentability for Xu or Xiao in view of Xu. Also, many of Petitioner's arguments

pertain to original claim language or claims only amended for dependency.

Overall, Petitioner's objections are without merit and Petitioner has not met its burden of proof. The Board should grant Terves' Motion to Amend.

**II. THE PROPOSED CLAIMS, BASED ON CLAIMS 76-81 THAT THE BOARD FOUND ARE SUPPORTED BY DOUD, ARE DEFINITE**

Under *Lectrosonics, Inc. v. Zaxcom, Inc.*, Case IPR2018-01129 (Paper 15) (PTAB Feb. 25, 2019) (*precedential*), "a patent owner does not bear the burden of persuasion to demonstrate the patentability of substitute claims presented in a motion to amend." *Id.* at 4. Instead, "the burden of persuasion ordinarily will lie with the petitioner to show that any proposed substitute claims are unpatentable by a preponderance of the evidence." *Id.*

Indefiniteness is "evaluated from the perspective of a person with ordinary skill in the relevant art at the time of the invention." *Nautilus, Inc. v. Biosig, Insts., Inc.*, 134 S. Ct. 2120, 2128 (2014). Claims are given their plain meaning and understood in light of the specification. MPEP § 2111. Applicants have considerable latitude in how they choose to define the invention so long as the terms and phrases define the invention with a reasonable degree of clarity and precision. *Ex Parte Peter M. Jacobson*, APPEAL 2013-001502 at \*3 (PTAB May 22, 2015).

1. *A POSITA would readily understand the scope and meaning of terms in situ precipitate and in situ galvanically-active intermetallic precipitate*

Petitioner argues the terms in situ precipitate and in situ galvanically-active

intermetallic precipitate are unclear. Paper 24 at 2. Petitioner's objection effectively amounts to an objection of antecedent basis.

Failure to provide antecedent basis, however, does not automatically render a claim indefinite; rather, if the scope of a claim would be reasonably ascertainable by those skilled in the art, then the claim is not indefinite. *See Energizer Holdings Inc. v. Int'l Trade Comm'n*, 435 F.3d 1366, 1371 (Fed. Cir. 2006) ("anode gel" provided by implication antecedent basis for "zinc anode").

In *Ex parte Peter M. Jacobson*, for example, the Board did not sustain any of the Examiner's § 112 rejections and held a POSITA would understand scope of the disputed claim limitations with reasonable certainty. *Ex Parte Peter M. Jacobson*, APPEAL 2013-001502, at \*4 (PTAB May 22, 2015). Specifically, the Board agreed with the patent owner that "the therapeutic electrical stimulation pulse" is the same as "the therapeutic stimulation pulse" despite the absence of "electrical." *Id.* The Board also determined other terms, such as "the stimulation pulse," "the encoded therapeutic stimulation pulse," individual pulse portions," "the total pulse," "the pulse," "the encoded pulse," and "the encoded pacing pulse," would be readily discernible by a POSITA even without explicit antecedent basis. *Id.*

Here, based on the claim language and the specification, it is clear that the composite includes "in situ precipitate," which is further qualified as including "in situ galvanically-active intermetallic precipitate to enable controlled dissolution of

the magnesium alloy.” A POSITA would readily understand in situ precipitate and in situ galvanically-active intermetallic precipitate as progressive terms referring to the same thing and that later use of in situ precipitate is discernible whether the words “galvanically-active intermetallic” are included or omitted.

Petitioner has not provided any support to prove that its antecedent basis objections would prevent a POSITA from understanding the claims.

2. *A POSITA would readily understand the scope and meaning of terms dissolvable magnesium cast composite and magnesium composite*

Petitioner argues it is unclear “what concentration of magnesium is required ... to be considered a “dissolvable magnesium cast composite” or “magnesium composite.”” Paper 24 at 4. Petitioner argues “[t]he term “magnesium cast composite” or “magnesium composite” *could* mean that the composite material is over 50% magnesium.” Emphasis added. Paper 24 at 4. To the extent Petitioner wants to read this limitation into the term “magnesium composite,” it is conjecture.

To supposedly counter its conjecture, Petitioner argues the specification is unclear describing “[n]on-limiting magnesium composites in accordance with the present invention include at least 50 wt. % magnesium.” Paper 24 at 5. As claims must be read in light of the specification under MPEP § 2111, Petitioner answered its own question by its citation. The ‘740 Patent discloses embodiments where magnesium is present in at least 50 wt. % magnesium and embodiments where it is not. The plain language of claim 104 is also clear: the claimed magnesium

composite comprises “a mixture of magnesium or a magnesium alloy and an additive material” and magnesium is not limited to a specific wt. % range.

Petitioner argues there is no “lower limit of magnesium concentration,” but Petitioner does not cite to any requirement in patent law for claims to specify exact ranges for every component. Indeed, no requirement exists. Moreover, the claims do recite several wt. % ranges for other components (e.g., for additive materials) from which a POSITA would be able to deduce amounts of magnesium covered by the claims. These terms appeared in the original claims and Petitioner’s own expert did not raise this concern in his evaluation of the claims. Ex. 1016. Overall, anything that falls within the limitations of the claims is a “dissolvable magnesium cast composite” or “magnesium composite” and Petitioner has not provided any support to prove that these terms require more than the presence of “a mixture of magnesium or a magnesium alloy” as recited in claim 104.

Petitioner argues “[s]o if all the additive metals were present in their maximum concentrations, then there would be 90% additives (35% + 35+ 20%), which suggests that claims literally cover a composite with a 10 wt. % magnesium.” Paper 24 at 5. Petitioner does not explain why this is a problem, however, or why this could not be described as a “magnesium” composite. The fact is that all embodiments in claim 104 comprise “a mixture of magnesium or a magnesium alloy and an additive material” whereas the type of additive materials

can vary. Just because embodiments may have less than 50 wt. % magnesium does not make them any less of a “magnesium” composite as would be understood by a POSITA. Again, Petitioner’s expert had no difficulty understanding embodiments of a “magnesium composite” where the copper, nickel, or cobalt are present in amounts up to and including 35 wt. %. Ex. 1016 at ¶¶ 41, 42, 44.

Petitioner has not provided any support to prove a POSITA would not readily understand the scope and meaning of a “magnesium” composite.

3. Petitioner’s argument related to cobalt and upper boundary limits runs contrary to the plain language of the claims

Petitioner argues dependent claim 105, reciting “said additive material includes one or both of said nickel and said copper” is unclear in whether it is inclusive of cobalt and what are the upper boundary limits. Paper 24 at 6.

Petitioner’s argument runs contrary to the plain language of the claims. In particular, claim 105 depends from claim 104. The recitations called out by Petitioner, i.e., additive material, nickel, and copper are all preceded by the term “said,” indicating prior antecedent basis. Indeed, claim 104 recites the additive material includes one or more metals selected from the group consisting of copper, nickel, and cobalt, each having an associated wt. % range with lower and upper boundaries, and claim 105 specifies an embodiment that includes one or both of nickel and copper. That is, a POSITA would understand claim 105 covers embodiments with and without cobalt, but including one or both nickel and copper,

and with the ranges recited in claim 104. Petitioner has not provided any support to prove a POSITA would not readily understand these claim recitations.

Moreover, Petitioner's arguments based on a combined maximum wt. % exceeding 100% fails for the same reason identified in Section 2(6) supra.

4. Petitioner has not shown why a POSITA would not understand the scope of the claimed dissolution rates

Petitioner argues claim 118 is indefinite and does not limit the subject matter of a prior claim. Paper 24 at 8. In particular, Petitioner cites claim 106 as reciting one dissolution rate and claim 118 reciting multiple dissolution rates.

Claim 118, however, directly depends from claim 113, which recites at least 50 wt. % magnesium and in turn depends from claim 110, which recites 0.5-10 wt. % aluminum. Claim 118, thus, includes the additional intervening claims 113 and 110, which recite limitations narrowing the composition of the composite. Claim 118 is necessarily narrower than claim 106. Moreover, since claim 118 lists the same dissolution rate as claim 106, claim 118 is not irreconcilable with claim 106.

Petitioner has not provided any support to prove a POSITA would not readily understand the scope of the claimed dissolution rates.

5. Petitioner's argument related to the magnesium alloy runs contrary to the plain language of the claims

Petitioner argues claims 119-134 are unclear in depending on claim 104 which recites "a mixture of magnesium or a magnesium alloy" while claims 119-

134 recite limitations of the magnesium alloy only. Paper 24 at 9.

Petitioner's argument runs contrary to the plain language of the claims. Each claim 119-134 recite "wherein said magnesium alloy..." These limitations, which recite the magnesium alloy, pertain to embodiments with the magnesium alloy. Such claims do not cover embodiments that do not include the magnesium alloy. Petitioner has not provided any support that a POSITA would not understand these claims. To the contrary, these claims were only amended for the dependency. The language now raised by Petitioner appeared in the original claims and Petitioner's own expert did not raise this concern in his evaluation of the claims. Ex. 1016.

Petitioner has not provided any support to prove a POSITA would not readily understand these claim recitations.

6. *A POSITA would readily understand the scope and meaning of the recited wt. % ranges even if the combined upper boundaries exceed 100%*

Petitioner objects to claims 136, 137, 142, 143, 153, 154, 160 as unclear because each claim recites an additive amount having an upper boundary "greater than 15%" but depend on claim 105 which recites "at least 85 wt. % magnesium." Paper 24 at 10. Similarly, Petitioner objects to claims 162-163 as depending from claims 112-113 reciting "at least 50 wt. % magnesium" but the upper boundaries of the combined additives exceed 50 wt. %. Paper 24 at 11. Terves submits a POSITA would understand the scope of all claims.

In *Ex Parte Sophie Viala*, the Board concluded that while “claim 37 may read on a composition including more than 100% by weight of the recited components,” this does not render the claim indefinite, “[r]ather, we determine that an ordinarily skilled artisan reading claim 37 could readily ascertain whether vinylpyrrolidone, acrylic acid, and pentaerythritol triallyl ether were present in a composition within the recited ranges, and thus whether the composition was within the scope of claim 37.” *Ex Parte Sophie Viala, Andreas Clausen, Celina Storbeck, Mirko Tesch, & Kerstin Skubsch*, APPEAL 2014-001627, at \*2 (PTAB Oct. 20, 2016). Such ruling aligned with prior precedent finding that “we cannot ... sustain the examiner’s rejection of the claims as ‘reading on’ compositions containing more than 100% [b]y weight of the components. Clearly, a rejection based on indefiniteness cannot stand simply because the proportions actually recited in the claims may be read in theory to include compositions that are impossible in fact to formulate. *In re Kroekel*, 504 F.2d 1143, 1146 (CCPA 1974).

Here, as in *Ex Parte Sophie Viala* and *In re Kroekel*, just because the claims recite ranges where the maximums may cumulatively amount to over 100% does not render the claims unclear. A POSITA would be able to understand whether a composition is within the scope of the claims. A POSITA would be able to deduce amounts of magnesium and amounts of metal materials covered by the claims. Moreover, Petitioner does not cite to, and there does not exist, any requirement that

maximum percentages in a claim have to equal exactly 100%. Notably, nearly all claims were only amended for dependency and all recite the same maximum wt. % as the original claims. Petitioner's own expert did not raise any arguments that the recited percentages in these claims are unclear. Ex. 1016.

Petitioner has not provided any support to prove a POSITA would not readily understand the recite % wt. ranges.

**III. BECAUSE THE PROPOSED CLAIMS ARE BASED ON CLAIMS 76-81, THEY ARE SUPPORTED BY DOUD**

Petitioner did not argue that any limitations of the original claims are not found in Doud, but, in fact, admitted and argued that Doud discloses these limitations. (Paper 2, 38-45). Petitioner only argued that there is no literal support in Doud for any values of copper, nickel, or cobalt over 35 wt. % as recited in original claim 19. (Paper 2, 22-24.) See, for example:

The petitioner submits that the open top end of the range for copper does not find written description support in the disclosure of the '653 patent. The '653 patent provides for various ranges of copper. ***In the '653 patent copper ranges of 0.05-35 wt. %, 0.01-5 wt. %, about 0.5-15 wt. %, 15-35 wt.% and 0.01-20 wt. % *are disclosed*.*** See '653 patent col. 5 lines 15-25.

Emphasis added; Paper 2, 22.

Petitioner makes similar statements for nickel and cobalt. Paper 2 at 23-24. This is also confirmed by Petitioner's expert. Ex. 1016, 17.

To satisfy the written description requirement, the description "must clearly

allow [a POSITA] to recognize that [the inventor] invented what is claimed.” *Ariad Pharm., Inc. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc) (citing *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1562–63 (Fed. Cir. 1991).

The proposed amendments directly addressed Petitioner’s only argument for lack of support in Doud, i.e., the open-ended ranges, by reciting an upper limit of 35 wt. % for copper and nickel and 20 wt. % for cobalt. The proposed amendments are undoubtedly supported in Doud by Petitioner’s original arguments and expert. The proposed amendments also align with the Board’s position that a POSITA reviewing the “disclosures of the parent and grandparent applications would understand that the upper boundary of copper and nickel in these applications is 35 wt. % and the upper boundary of cobalt is 20 wt. %.” Paper 14 at 11.

Now Petitioner argues that while the proposed claims may find “written description support for the individual ranges having a maximum value of 35 wt. % of Cu or Ni and 20 wt. % of Co in the disclosure of the parent ‘653 patent application, there is no support for the combination of “more additives than one.” Paper 24 at 13. But the ‘653 Patent, in fact, does provide explicit support for more additives than one. For example, the abstract describes “One or more additives are added to the metallic primary alloy ....” Ex. 1002 at Abstract. Further, the ‘653 Patent twice states: “One or more additives are added to a magnesium or magnesium alloy to form the novel magnesium composite of the present

invention.” Ex. 1002 at 2;22-24 and 15;64-66.

Petitioner further argues that the ‘653 Patent does not disclose “more than one of the additives in amounts in which the overall additive material exceeds 45 wt. % or 50 wt. %.” Paper 24 at 14. But this limitation is not actually recited in any of the proposed claims. The limitations recited in the proposed claims are fully supported in the ‘653 Patent and in Doud and a POSITA would understand the scope of the claims and recited ranges for wt. % in view of the specification. Petitioner’s expert had no difficulty understanding embodiments where copper, nickel, or cobalt are present in the amounts recited. Ex. 1016 at ¶¶ 41, 42, 44.

Petitioner has not shown that the proposed claims are not supported in Doud and indeed the proposed claims are fully supported in Doud.

#### **IV. CONCLUSION**

Based on the foregoing, Petitioner’s objections are without merit. Petitioner has not met its burden of proof. The Board should grant Terves’ Motion to Amend.

Dated: March 27, 2024

Respectfully submitted,

/s/David B. Cupar  
David B. Cupar (47,510)  
MCDONALD HOPKINS LLC  
600 Superior Avenue, East, Ste. 2100  
Cleveland, Ohio 44114  
t 216.348.5400 | f 216.348.5474  
[dcupar@mcdonaldhopkins.com](mailto:dcupar@mcdonaldhopkins.com)

*Lead Counsel for Patent Owner*

**CERTIFICATE OF SERVICE**

The undersigned hereby certifies that a copy of the foregoing contingent PATENT OWNER'S REPLY TO OPPOSITION TO CONTINGENT MOTION TO AMEND and any supporting exhibits was served on March 27, 2024, by filing this document through the Patent Review Processing System as well as by email directed to the attorneys of record for Petitioner:

[Request at Petition p.3] [IN@bayramoglu-legal.com](mailto:IN@bayramoglu-legal.com)

Gokalp Bayramoglu [Gokalp@bayramoglu-legal.com](mailto:Gokalp@bayramoglu-legal.com)

Nihat Deniz Bayramoglu [Deniz@bayramoglu-legal.com](mailto:Deniz@bayramoglu-legal.com)

Dated: March 27, 2024

Respectfully submitted,

/s/David B. Cupar

David B. Cupar (47,510)

MCDONALD HOPKINS LLC

600 Superior Avenue, East, Ste. 2100

Cleveland, Ohio 44114

t 216.348.5400 | f 216.348.5474

[dcupar@mcdonaldhopkins.com](mailto:dcupar@mcdonaldhopkins.com)

*Lead Counsel for Patent Owner*

**CERTIFICATE OF COMPLIANCE**

Patent Owner, Terves, LLC, certifies the following:

1. This brief complies with the type-volume limitation of 37 C.F.R. § 42.24(c)(3). Specifically, this brief contains 12 pages excluding parts of the brief exempted by 37 C.F.R. § 42.24(c); and

2. This brief complies with the typeface requirements of 37 C.F.R. § 42.6(a)(2)(ii) and the type style requirements of 37 C.F.R. § 42.6(a)(2)(iii). Specifically, this brief has been prepared in a proportionally spaced typeface using Microsoft Word in a 14 point Times New Roman font.

Respectfully submitted,

/s/David B. Cupar  
David B. Cupar (47,510)