

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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WESTERNGECO LLC,  
Petitioner,

v.

PGS GEOPHYSICAL AS,  
Patent Owner.

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Case IPR2015-00313  
Patent 6,026,059

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Before JUSTIN BUSCH, MITCHELL G. WEATHERLY, and  
BEVERLY M. BUNTING, *Administrative Patent Judges*.

Opinion for the Board filed by *Administrative Patent Judge Busch*.

Opinion Dissenting filed by *Administrative Patent Judge Bunting*.

BUSCH, *Administrative Patent Judge*.

DECISION  
*Granting Request for Rehearing*  
*37 C.F.R. § 42.71(d)*

## I. BACKGROUND

On June 3, 2016, we issued a Final Written Decision in this proceeding. Paper 39 (“Decision” or “Dec.”). In the Decision, we held Petitioner demonstrated, by a preponderance of the evidence, that claims 1, 4, 10, and 11 of U.S. Patent No. 6,026,059 (“the ’059 patent”) are unpatentable as anticipated by U.S. Patent 4,933,912 to Gallagher (hereinafter, “Gallagher”), but Petitioner failed to demonstrate, by a preponderance of the evidence, that claims 2, 3, and 5 were unpatentable. *Id.* at 27. On July 5, 2016, Petitioner filed a Request for Rehearing challenging our determination that Petitioner failed to demonstrate the unpatentability of claim 2 of the ’059 patent as anticipated by Gallagher. Paper 43 (“Request” or “Req. Reh’g”). We authorized, via email, Patent Owner to file a reply to the Request on August 29, 2016. On September 6, 2016, Patent Owner filed its reply to the Request. Paper 44 (“PO Reply”).

On rehearing, the burden of showing the Decision should be modified lies with the party challenging the Decision. 37 C.F.R. § 42.71(d). “The request must specifically identify all matters the party believes the Board misapprehended or overlooked, and the place where each matter was previously addressed in a motion, an opposition, or a reply.” *Id.* For the reasons that follow, Petitioner’s request for rehearing is granted. This decision on rehearing modifies our Final Written Decision only to the extent that we now hold claim 2 of the ’059 patent to be unpatentable as anticipated by Gallagher. Neither party challenges our holdings with respect to any other claims in our Final Written Decision.

## II. DISCUSSION

Petitioner seeks rehearing of our determination that Petitioner failed to demonstrate, by a preponderance of the evidence, that claim 2 is unpatentable as anticipated by Gallagher. Claim 2 depends directly from claim 1. Claim 1 recites:

A process for generating a bin of common mid-point traces from a three dimensional seismic survey data set, each of the traces having a shot location and a receiver location associated therewith, the process comprising:  
gathering from the data a plurality of traces having a common reference point, whereby a common reference point bin is defined and whereby each of the plurality of traces has an offset associated therewith;  
assigning a coordinate set to a plurality of traces in the common reference point bin, wherein the coordinates are associated with the shot position and the receiver position associated with the traces and wherein, from the coordinates, the offset and direction of a line between the shot and receiver is determinable, whereby a coordinate-designated set of traces is defined; and  
organizing the coordinate-designated set of traces into a set of bins having a regularized number of traces.

Ex. 1001, 5:48–64. Claim 2 further recites “wherein a plurality of the coordinate-designated set of traces have the same coordinates” (the “disputed limitation”). *Id.* at 5:65–67.

Petitioner asserts we “misinterpreted claim 2 as requiring a plurality of traces within the same sub-bin after the performance of all of claim 1’s steps, including the organizing step.” Req. Reh’g 2. Specifically, Petitioner asserts<sup>1</sup> the disputed limitation is not temporally limited. *Id.* at 3–6. Patent

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<sup>1</sup> Petitioner also asserts that, even if the disputed limitation is understood as requiring a plurality of traces in the same sub-bin after the organizing step, Gallagher anticipates claim 2. Because Petitioner’s argument that we

Owner argues the “plurality” of traces recited in claim 2 must be the plurality of traces that were organized into a bin. PO Reply 2. For the reasons discussed below, we are persuaded we misapprehended Petitioner’s arguments regarding the appropriate construction of claim 2 and misinterpreted claim 2.

As an initial matter, we note our Decision held that Gallagher discloses the organizing step recited in claim 1. During trial, Patent Owner did not dispute that “organizing” includes Gallagher’s process of decimation.<sup>2</sup> Specifically, we were persuaded that Gallagher’s discussion of determining a desired number of traces to be selected, Ex. 1005, 5: 46–60, and selecting the desired number of traces from the section-shell segments (and ignoring, for purposes of further analysis, the unselected traces), Ex. 1005, 6:68–8:47 (describing step 6, which selects traces from each segment), sufficiently discloses “organizing” traces. Dec. 14–15 (citing Pet. 40–42, 47–48).

Petitioner asserts we misconstrued the disputed limitation as temporally limited to occurring after the organizing step, recited in claim 1. Req. Reh’g 3–6. Petitioner further asserts we overlooked its argument that the disputed limitation “is tied to the creation of the coordinates from the survey data and survey geometry . . . and not to the later organization.” *Id.* at 4–5 (citing Pet. Reply 17). The disputed limitation is not a method step and has no action associated with it. *See* Ex. 1001, 5:65–67. The disputed

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misinterpreted claim 2 is persuasive, we do not reach Petitioner’s alternative argument.

<sup>2</sup> Patent Owner did argue that Gallagher fails to disclose the organizing step, as a whole, based on Patent Owner’s position that Gallagher’s process does not result in “a set of bins having a regularized number of traces.”

limitation merely defines a characteristic of “a plurality of the coordinate-designated set of traces”; namely, that such a plurality “have the same coordinates [as each other].” *Id.* Thus, claim 2 is temporally restricted only to the extent that the assigning step recited in claim 1 provides antecedent basis for “the coordinate-designated set of traces” recited in claim 2.

Although we did not explicitly construe claim 2 as requiring the organizing step to be performed before it could be determined whether “a plurality of the coordinate-designated set of traces have the same coordinates,” we implicitly did so. *See* Dec. 20–21. Applying that construction to Gallagher’s disclosure, we implicitly equated “a plurality of the coordinate-designated set of traces” to only the traces selected in Gallagher’s step 7 (i.e., the traces remaining after decimation). *Id.* (“Having determined above that the disclosure in Gallagher regarding one trace within a sub-bin satisfies the limitation of a ‘set of bins,’ we are persuaded by Patent Owner’s arguments that a single trace per sub-bin is not a ‘plurality.’”).

Patent Owner asserts the Decision “understood that claim 2’s recitation of a ‘plurality of the coordinate-designated traces having the same coordinates’ *means* a plurality of traces that have been ‘organiz[ed]’ into the same bin.” PO Reply 2 (citing Dec. 21). Patent Owner argues the Decision recognized that the ’059 patent “equates the ‘coordinates’ recited in claim 2 with ‘bin[s].’” *Id.* (citing Dec. 10; Ex. 1001, 4:5–7). Patent Owner contends that the requirement in claim 2 that traces have the same coordinates refers to traces being in the same bin after the traces have been organized into a set of bins having a regularized number of traces. *Id.* Finally, Patent Owner refers to Figure 6 of the ’059 patent and argues “a plurality of traces ‘have

the same coordinates’ precisely when those traces ‘populat[e]’ the same ‘common-inline/common crossline bin.’” *Id.* at 3 (citing Ex. 1001, 5:63–67).

Based on the evidence and arguments before us, we agree with Patent Owner, and Petitioner does not contest, that traces “have the same coordinates” when those traces populate the same bin in the “set of bins.” We agree with Petitioner, however, that the disputed limitation is tied to the assignment of coordinates, not to the organizing step, and we are unpersuaded by Patent Owner’s arguments that a trace can only populate a particular bin after “the coordinate-designated set of traces” has been organized.

Patent Owner argues the “plurality of coordinate-designated set of traces,” recited in claim 2 “are the same ‘regularized number of traces’ in the ‘bins’ that result from the ‘organizing’ step.” PO Reply 1–2. The dissent would find that the organizing step redefines “the coordinate-designated set of traces” recited in the assigning step or that two different “coordinate-designated set[s] of traces” exist. Dissent at 2 (explaining that “the ‘organizing’ limitation recited in claim 1 explicitly modifies this ‘coordinate designated set of traces’ by arranging them ‘into a set of bins having a regularized number of traces’” and that “[i]t is not apparent . . . which recitation of ‘coordinate-designated set of traces’ is modified by claim 2, *e.g.*, the first recitation, second recitation, or both.”). However, such a finding would be inconsistent with the plain language of the claims. Claim 1 defines “a coordinate-designated set of traces” in its assigning step and further recites “organizing *the coordinate-designated set of traces* into a set of bins having a regularized number of traces.” When claim 2 recites that “a

plurality of *the coordinate-designated set of traces* have the same coordinates,” the “set of traces” referred to is the same “set of traces” defined in the assigning step of claim 1 and subsequently organized in the organizing step of claim 1. Interpreting the “set of traces” recited in claim 2 as referring to a different “set of traces” that is generated in the assigning step of claim 1 would run counter to the plain language of claim 1.

Logically and grammatically, the disputed limitation refers to some subset<sup>3</sup> of the traces that were defined in the assigning step as the “coordinate-designated set of traces.” Moreover, as discussed above, we construed the organizing step as encompassing Gallagher’s process of selecting traces from each section-shell segment and ignoring (i.e., decimating or discarding) every other trace. *See* Ex. 1005, 6:68–8:47. In Gallagher, the *bins are created in the assigning step* and, therefore, exist prior to the organizing step. The organizing step merely involves achieving a “regularized number of traces” in each bin by ignoring some of the traces in the coordinate-designated set of traces defined in the assigning step. Accordingly, when, as in Gallagher, the organizing step does not create either the “set of bins” or the “coordinate-designated set of traces,” one may determine whether traces “have the same coordinates” prior to the organizing step. Therefore, we agree with Petitioner that the disputed limitation is temporally limited only by the fact that the coordinate-designated set and the set of bins are created in the assigning step (i.e.,

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<sup>3</sup> The subset identified in the disputed limitation must contain at least two traces because it recites “a *plurality*” and may include any number, up to and including all, of the traces defined in the assigning step as belonging to the coordinate-designated set of traces.

neither the coordinate-designated set nor the set of bins exist prior to the assigning step).

Patent Owner urges us to read claim 2 as requiring each bin in the set of bins to have a plurality of traces. However, claim 2 requires only that at least two of the traces in “the coordinate-designated set of traces” have the same coordinates. Claim 2 does not require that each bin in the claimed “set of bins” has a plurality of traces in it. Patent Owner essentially asks us to redraft claim 2 to read: “[a] process as in claim 1 wherein [each bin in the set of bins includes] a plurality of the coordinate-designated set of traces ~~have the same coordinates.~~”

For the reasons above, we find the plain and ordinary meaning of “the coordinate-designated set of traces” to be unambiguous and consistent with the specification of the ’059 patent (which provides very limited disclosure of the methods used, particularly with respect to details of the assigning and organizing steps). Although Patent Owner’s proposed construction also is reasonable and consistent with the specification, it is unduly narrow because it excludes the broader, but still reasonable, plain and ordinary meaning.

Nevertheless, the dissent would look to exemplary embodiments disclosed in the specification of the ’059 patent in an effort to discern what the drafter intended to claim. However, absent a clear, deliberate, and precise definition, it is one of the “cardinal sins” of patent law to import limitations from an embodiment in the specification into the claims. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1320 (Fed. Cir. 2005) (en banc). Although we read the claims in light of the specification, we cannot redraft the claims for Patent Owner to try to cover unclaimed features described in the specification. *See Ventana Med. Sys., Inc. v. BioGenex Labs., Inc.*, 473

F.3d 1173, 1181 (Fed. Cir. 2006) (refusing to read limitation found in all embodiments in the specification into the claims because “[w]hen the claim addresses only some of the features disclosed in the specification, it is improper to limit the claim to other, unclaimed features”); *see also E-Pass Techs., Inc. v. 3COM Corp.*, 343 F.3d 1364, 1370 (Fed. Cir. 2003) (refusing to read feature of every embodiment from specification into the claims because “[a]n invention may possess a number of advantages or purposes, and there is no requirement that every claim directed to that invention be limited to encompass all of them”).

The dissent also looks to claim 12, which was not a claim for which *inter partes* review was instituted. Dissent at 6. The dissent argues claim 12 “includes similar functional requirements as claim 1,” but acknowledges claim 12 “does not expressly recite the term ‘organizing,’” and instead “merges the functional limitations recited by the ‘assigning’ and ‘organizing’ limitation of claim 1.” *Id.* When determining the meaning of terms in a challenged claim, other claims in the same patent may, of course, be useful. However, we do not consider claim 12 to be useful in understanding the organizing step in claim 1 because claim 12 does not recite an “organizing” step at all. *See id.* The dissent characterizes claim 12’s assigning step as a merging of claim 1’s assigning and organizing steps.<sup>4</sup> *Id.* We view claim 12 as merely omitting the organizing step and

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<sup>4</sup> The dissent’s reference to Petitioner’s claim chart and the testimony from Dr. Ikelle, Dissent at 6, provides little, if any, insight into the meaning of “organizing” as recited in claim 1. The claim chart merely maps the exact language from claims 1 and 12 that “a plurality of the coordinate-designated set of traces have the same coordinates,” in order to show where Gallagher discloses that condition of both claims. Ex. 1002 ¶ 38. It implies nothing

implying that the organizing step is not necessary in order for “a plurality of the coordinate-designated set of traces [to] have the same coordinates.”

Finally, we find the dissent’s reference to claim 4, Dissent at 8 n.9, to be inapposite because claim 4 differs from claim 2 (the drafters chose disparate language) so much that claim 4 should be addressed independently.

Notwithstanding our findings and conclusions discussed above, the Decision was based on an implicit finding that the “plurality of coordinate-designated set of traces” referred to in claim 2 referred to traces remaining after “the coordinate-designated set of traces” were organized “into a set of bins having a regularized number of traces.” *See* Dec. 20–21. Therefore, to the extent the Decision relied on a construction of “a plurality of traces in the coordinate-designated set” to be traces in bins remaining after the organizing step, we are persuaded that we misconstrued claim 2.

Petitioner contends there is no dispute that, when claim 2 is interpreted properly (i.e., not tied to the organizing step), Gallagher teaches or suggests the disputed limitation. Req. Reh’g 5–6. We found persuasive Petitioner’s mappings of (1) Gallagher’s assignment of sections and shells in a common reference point bin to the assigning step, (2) the section-shell segments created from that assignment to the recited set of bins, and (3) Gallagher’s decimation process, which in one example leaves one trace per section-shell segment (or bin), to the organizing step. Dec. 14–19; *see* Pet. 45–48. In Gallagher, it is the combination of the acquisition geometry and the selection of the sections and shells that defines the coordinate-designated set of traces and the bins. Prior to Gallagher’s decimation,

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about how that condition was generated. Similarly, Dr. Ikelle’s cited testimony merely states what claims 1 and 12 recite. *Id.* ¶ 40.

therefore, one could determine the bin to which each trace belongs because the “coordinate-designated set of traces” was already defined. The decimation process merely eliminates certain traces from existing bins for purposes of further analysis. In fact, Gallagher’s decimation process relies on selecting one source-receiver pair from each bin; it is thus apparent that the bins (or section-shell segments bins) exist prior to decimation (or organization). Accordingly, when applying the proper construction of claim 2, we are persuaded Petitioner has demonstrated, by a preponderance of the evidence, that Gallagher anticipates claim 2.

### III. CONCLUSION

We are persuaded by Petitioner’s arguments. We grant Petitioner’s Request and hold that claim 2 is unpatentable as anticipated by Gallagher. Because we are persuaded Petitioner has demonstrated, by a preponderance of the evidence, that claim 2 is unpatentable as anticipated by Gallagher, we modify our Final Written Decision to hold claim 2 unpatentable. No other aspect of our Final Written Decision is modified by this decision.

### IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that the request for rehearing is GRANTED;

FURTHER ORDERED that claim 2 is held to be unpatentable as anticipated by Gallagher;

FURTHER ORDERED that because this is a Final Written Decision, parties to this proceeding seeking judicial review of our decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

BUNTING, *Administrative Patent Judge, dissenting.*

I respectfully dissent with the Majority's finding that the phrase "coordinate-designated set of traces" in claim 2 modifies *only* the "assigning" limitation recited in claim 1, and determination that claim 2 is anticipated by Gallagher.

As our reviewing courts confirmed in *Cutsforth, Inc. v. Motivepower, Inc.*, 643 Fed. Appx. 1008 (Fed. Cir. 2016) (unpublished) (nonprecedential), "[w]hile claims are given their broadest reasonable interpretation in IPR proceedings, claim interpretation still 'must be reasonable in light of the claims and specification.'" (quoting *PPC Broadband, Inc. v. Corning Optical Commc'ns RF, LLC*, 815 F.3d 747, 755 (Fed. Cir. 2016)); *see also SAS Inst., Inc. v. ComplementSoft, LLC.*, 825 F.3d 1341, 1343 (Fed. Cir. 2016) ("While we have endorsed the Board's use of the broadest reasonable interpretation standard in IPR proceedings, we also take care to not read 'reasonable' out of the standard. This is to say that '[e]ven under the broadest reasonable interpretation, the Board's construction cannot be divorced from the specification and the record evidence, and must be consistent with the one that those skilled in the art would reach.'" (quoting *Microsoft Corporation v. Proxyconn, Inc.*, 789 F.3d 1292, 1298 (Fed. Cir. 2015) (internal quotation marks omitted) (first quoting *In re NTP, Inc.*, 654 F.3d 1279, 1288 (Fed. Cir. 2011); and then quoting *In re Cortright*, 165 F.3d 1353, 1358 (Fed. Cir. 1999))). Against this backdrop, my belief is that the majority's interpretation of claim 2 is unreasonably broad in light of the claims, specification, evidence of record, and how one of skill in the art would interpret this claim term.

As a first consideration, there is no dispute that the language of the claims themselves provides guidance in interpreting the meaning of a

particular claim term. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1314, 1315 (Fed. Cir. 2005) (*en banc*). Here, Petitioner supports its interpretation of claim 2, i.e., as not necessarily following claim 1’s organizing step, by pointing out that the predicate “coordinate-designated set of traces” is first recited in independent claim 1 prior to the “ultimate organizing step.” Req. Reh’g. 4. Petitioner maintains that the plurality of traces recited in claim 2 “is tied to the creation of the coordinates from the survey data and survey geometry—*i.e.*, at the outset of data gathering/processing and prior to Gallagher’s organization process—and not to the later organization of traces into sub-bins.” Req. Reh’g. 4–5 (citing Pet. Reply 17). It is worth noting that Petitioner does not rely on the specification or testimony from its expert to support these contentions.

Grammatically, it is undisputed that the term “coordinate-designated set of traces,” is first introduced within the context of the “assigning” limitation of claim 1. Ex. 1001, 5:56–62. Nonetheless, the “organizing” limitation recited in claim 1 explicitly modifies this “coordinate designated set of traces” by arranging them “into a set of bins having a regularized number of traces.” *Id.* at 5:63–64. It is not apparent from the plain language of claim 2, or claim 1 for that matter, which recitation of “coordinate-designated set of traces” is modified by claim 2, e.g., the first recitation, second recitation, or both.<sup>5</sup> Where I diverge from the majority, is in its over-emphasis on the plain language of the claims, and failure to also consider the

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<sup>5</sup> Claim 3 depends from claim 2 and further recites “adding a plurality of traces having the same coordinates. It is worth noting that Petitioner does not dispute that claim 3 modifies the “organizing” limitation, nor does Petitioner challenge our finding that claim 3 is *not* anticipated by Gallagher. Dec. 22.

teachings of the specification, as supported by the evidence of record, to resolve this ambiguity.

Next, I considered the specification and evidence of record. Based on the specification, expert testimony, and our construction of “coordinate set” and “set of bins” in the Decision, I am persuaded by Patent Owner that Figure 6 illustrates a coordinate-designated set of traces within the set of bins, with each bin having a regularized number of traces and the same coordinates.<sup>6</sup> Ex. 1001, 3:66–4:1. Figure 6 is described in the specification as illustrating one common midpoint bin having:

a coordinate set [is] assigned to the traces in the CMP bin. In this example there is a constant fold of *two traces per coordinate bin*. Thus, from the coordinates assigned, the offset and direction of a line between the shot and receiver is determinable, and a coordinate designated set of traces is defined.

Ex. 1001 3:60–65 (emphasis added). I view the following passage from the specification as clarifying that:

[i]n the example embodiment shown, a plurality of the coordinate-designated set of traces have the same coordinates. In this example, the acquisition geometry resulted in *two traces* populating each common-inline/common crossline bin, and, according to a further embodiment of the invention, such traces are added to increase the signal to noise ratio. However, in alternative embodiments, there will be a unique set of coordinates per trace (i.e., a single trace per coordinate bin), and no adding will occur.

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<sup>6</sup> During trial, the parties did not challenge our construction of “coordinate set” as “a group of coordinates used to determine a trace’s offset and azimuth.” Dec. 7. Neither the parties nor the majority dispute the finding that “the broadest reasonable construction of ‘a set of bins’ as would be understood by one of skill in the art in the context of the ’059 patent is ‘a set of common offset bins within a common reference point bin.’” Dec. 11.

*Id.* at 3:66–4:7 (emphasis added). Figures 7 and 8 further confirm my understanding that the coordinate bin shown in Figure 6 illustrates a plurality of traces, in this specific example having a fold of 2 that have been arranged or “*organized*” into a set of bins, i.e., “a set of common offset bins within a common reference point bin.” The specification advances my understanding of Figure 6 as illustrating the traces *after arranging or organizing* into a “set of bins,” because the data in the coordinate bin shown in Figure 6 is available for processing such as by dividing into quadrants as shown in Figure 7, or folding the Cartesian bin of Figure 8 so that opposing quadrants are added to create common inline/crossline coordinate bins having an increased fold. *Id.* at 4:12–27.

The majority criticizes this position, by articulating the “cardinal rule” that limitations from the specification are not to be read into the claims. *See In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993). This principle remains intact. The majority is not giving sufficient regard to other factors our reviewing court considers, including “(r)ead[ing] a claim in light of the specification, to thereby interpret limitations explicitly recited in the claim, is a quite different thing from reading limitations of the specification into a claim, to thereby narrow the scope of the claim by implicitly adding disclosed limitations which have no express basis in the claim.” *In re Prater*, 415 F.2d 1393, 1404–05 (CCPA 1969). Here, the term “coordinate-designated set” is expressly recited in claims 1 and 2. Because the ordinary meaning is not readily apparent, other sources, including the specification, prosecution history or extrinsic evidence should be consulted to provide the necessary context. *Phillips*, 415 F.3d, 1314.

Finally, I considered whether Patent Owner’s interpretation was reasonable in light of the specification, evidence of record, and what one of skill in the art would arrive at. Our reviewing court “ha[s] endorsed the Board’s use of the broadest reasonable interpretation standard in IPR proceedings,” yet, at the same time, it has cautioned that “we also take care to not read ‘reasonable’ out of the standard.” *SAS Institute, Inc.*, 825 F.3d at 1348. “Even under the broadest reasonable interpretation, the Board’s construction cannot be divorced from the specification and the record evidence, and must be consistent with the one that those skilled in the art would reach.” *Id.* (citing *Proxyconn*, 789 F.3d at 1298 (internal quotation marks omitted) (first quoting *In re NTP, Inc.*, 654 F.3d 1279, 1288 (Fed. Cir. 2011); and then quoting *In re Cortright*, 165 F.3d 1353, 1358 (Fed. Cir. 1999)). For the reasons that follow, I regard Patent Owner’s interpretation as more reasonable than the Petitioner’s, when viewed in conjunction with the specification and evidence of record.

The majority finds it significant that the term “organizing” itself is only recited in claim 1, and not in the specification. Ostensibly, in overemphasizing “organizing” as a separate step from “assigning,” the majority ignores passages in the specification that one of skill in the art would extensively recognize as describing the arrangement of traces within the set of bins, as “organizing.” Yet, Petitioner seemingly does not make such a distinction. Petitioner understood that the ’059 patent described the process “of acquiring seismic data and organizing or grouping the data into CMP bins.” Pet. 5 (citing Ex. 1001, 1:21–25). Petitioner asserted that “it was well-known to one of ordinary skill in the art at the time the ’059 patent

was filed to organize acquired seismic data post-acquisition to normalize or regularize the data.” *Id.* at 10 (citing Ex. 1002 ¶¶ 31–32).

Moreover, Petitioner’s expert, as one of skill in the art, did not make the distinction between “assigning” and “organizing” that Petitioner and the majority now assert. Although we did not institute trial as to claim 12 because it expressly recites a Cartesian coordinate set, claim 12 is illuminating because it includes similar functional requirements as claim 1. Ex. 1001, 5: 48–64, 6:24–43. Notably, Claim 12 does not expressly recite the term “organizing,” rather claim 12 merges the functional limitations recited by the “assigning” and “organizing” limitation of claim 1, as well as the limitation of claim 2, into a single limitation.<sup>7</sup> Petitioner’s expert provided a chart to illustrate the differences and similarities between claims 1 and 12, and mapped the “plurality of the coordinate-designated set of traces having the same coordinates” limitation adjacent the “organizing” limitation of claim 1, and not the “assigning” limitation of claim 1. Ex. 1002, ¶ 38. Indeed, Petitioner’s expert testified:

Both Claims 1 and 12 require the assigned coordinates to be “associated with the shot position and the receiver position associated with the traces, and wherein, from the coordinates, the offset and direction of a line between the shot and receiver are determinable.” Claim 1 further requires “organizing the coordinate-designated set of traces into a set of bins having a regularized number of traces.” Claim 12 does not require a regularized number of traces. Rather, it requires “a plurality of the coordinate-designated set of traces having the same coordinates,” and then “adding a plurality of traces having the same coordinates.”

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<sup>7</sup> *See Phillips*, 415 F.3d at 1314 (“Other claims of the patent in question, both asserted and unasserted, can also be valuable sources of enlightenment as to the meaning of a claim term.”).

*Id.* at ¶ 40.

For these reasons, I remain persuaded by Patent Owner’s argument that, in claim 2, “the ‘plurality’ of traces that ‘have the same coordinates’ are the same ‘regularized number of traces’ in the ‘bins’ that result from the ‘organizing’ step.” PO Reply, 1–2. I am also persuaded by Patent Owner’s further argument that the term “coordinates” “refer[s] to what bin a trace is in after the traces have been ‘organiz[ed]’ ‘into a set of bins having a regularized number of traces.’” PO Reply 2 (citing Ex. 1001 4:5–7 (describing embodiment having “a unique set of coordinates per trace (i.e. a single trace per coordinate bin)”). Likewise, I am persuaded by Patent Owner’s argument that Figure 6 (*id.* at 2–3 (citing Ex. 1001, 3:59–4:3)), and the related passages from the specification, support its assertion that “a plurality of traces ‘have the same coordinates’ precisely when those traces ‘populat[e]’ the same ‘common inline/common crossline bin’ *i.e.*, the same bin within the ‘set of bins’ into which traces are ‘organized’ in the method of claims 1 and 2.” *Id.* at 3 (citing Ex. 1001 at 5:63-67).

Contrary to the majority, my assessment is that the Petition fell short in presenting sufficient evidence, such as from the specification of the ’059 patent or testimonial evidence, suggesting that one of skill in the art would understand the “coordinate-designated set of traces” recited in claim 2 as only modifying the “coordinate-designated set of traces” recited in the “assigning” step. Based on the arguments and evidence presented during trial, I remain persuaded by Patent Owner’s explanation and evidence of how “claim 2’s recitation of a ‘plurality of the coordinate-designated traces having the same coordinates’ *means* a plurality of traces that have been ‘organiz[ed]’ into the same bin.” PO Reply 2 (citing Dec. 21). Essentially,

that “the plurality of the coordinate-designated set of traces *within the set of bins* have the same coordinates.” Indeed, my understanding of claim 2 is consistent with my understanding of claim 4.<sup>8</sup>

For the reasons expressed, I would deny rehearing because Petitioner has not identified any matter it believes the Decision misapprehended or overlooked. *See* 37 C.F.R. § 42.71(d).

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<sup>8</sup> As discussed in our Decision, during trial Petitioner asserted that because claim 4 recites that each trace has a unique set of coordinates, i.e., a single trace per coordinate bin, claim 1 must be broad enough to encompass sub-bins that contain only a single trace. Pet. Reply 9. We did not dispute this assertion. Indeed, we were persuaded by Petitioner’s arguments and evidence that claim 4 was anticipated by Gallagher. Dec. 19.

IPR2015-00313  
Patent 6,026,059

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