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NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203			HERNANDEZ-PREWITT, ROGER G	
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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* JØRGEN HALLUNDBÆK, and  
JIMMY KJÆRSGAARD-RASMUSSEN

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Appeal 2018-006536  
Application 14/130,224  
Technology Center 2800

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BEFORE KAREN M. HASTINGS, JAMES C. HOUSEL, and  
JANE E. INGLESE, *Administrative Patent Judges*.

HASTINGS, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant<sup>1</sup> requests our review under 35 U.S.C. § 134(a) of the Examiner's decision rejecting claims 1–22 and 24 under 35 U.S.C. § 103 as unpatentable over at least the combined prior art of Al-Khamis (US 2010/0226206 A1, published September 9, 2010), Pabon (US

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<sup>1</sup> We use the word “Appellant” to refer to the “Applicant” as defined in 37 C.F.R. § 1.42(a). “WELLTEC A/S” is identified as the real party in interest (Appeal Br. 3).

2003/0235114 A1, published December 25, 2003), and Almaguer (US 2009/0166035 A1, published July 2, 2009).<sup>2</sup>

We have jurisdiction over the appeal under 35 U.S.C. § 6(b).

We AFFIRM.

#### CLAIMED SUBJECT MATTER

Claim 1 is illustrative of the subject matter on appeal (emphasis added to highlight key disputed limitations):

1. A downhole tool for determining laterals in a borehole wall or a borehole casing, comprising:

- a tool housing extending along a longitudinal axis and having a circumference perpendicular to the longitudinal axis and adapted to be lowered into a well, and

- a plurality of sonic transceivers, each sonic transceiver for transmitting sonic signals from the housing and for receiving sonic signals reflected from the borehole wall or borehole casing in a predefined angular segment that is different from the predefined angular segments corresponding to the other sonic transceivers of the plurality of sonic transceivers,

wherein the plurality of sonic transceivers are arranged along the circumference of the tool housing having a mutual distance and are configured to transmit sonic signals radially away from the tool housing in an entire central angle of 360 degrees towards the borehole wall or borehole casing and

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<sup>2</sup> Hallanbaek (EP 2 317 070 A1, published May 4, 2011), was additionally applied to claims 13–16, Morin (*Downhole Measurements in the AND-1b Borehole, ANDRILL McMurdo Ice Shelf Project, Antarctica* 14(3) TERRA ANTARCTICA, ANDRILL Research and Publications 167–174 (2007)) was additionally applied to claims 17–20, and Angehrn (5,164,548, issued November 17, 1992) was additionally applied to claims 21 and 22 (Final Action 19–26). These references are listed in the Summary Table located at the end of this Decision. A discussion of these references is not needed for disposition of this appeal.

wherein, during use, only a portion of the plurality of sonic transceivers transmit, during a pulse time, a sonic signal in the predefined angular segments of the one or more transmitting sonic transmitters, and wherein at least one sonic transceiver of the plurality of sonic transceivers, receives, *during a subsequent pre-set echo time period, a reflected sonic signal from the borehole wall or borehole casing, and wherein an absence of the received reflected sonic signal, during the subsequent pre-set echo time period, indicates a lateral.*

Appeal Br. 19 (Claims Appendix).

Independent claim 13 is also directed to a downhole system with a tool similar to that of claim 1 (Claims Appendix 21, 22). Independent claim 17 is directed to a method of determining a position of a lateral using a downhole tool similar to that of claim 1 (Claims Appendix 22, 23). Independent claim 24 is also directed to a downhole tool similar to claim 1 (Claims Appendix 24, 25).

Appellant basically relies upon the same arguments for all of the claims, except it is also further contended that the Examiner did not specifically treat the language of claim 24 regarding absence of a detected signal during “multiple pre-set echo time periods” for detecting a lateral (Appeal Br. 14).

#### OPINION

Upon consideration of the evidence of record and each of Appellant’s contentions as set forth in the Appeal Brief, as well as the Reply Brief, we determine that Appellant has not identified reversible error in the Examiner’s rejections (*e.g., generally* Ans.). *In re Jung*, 637 F.3d 1356, 1365–66 (Fed. Cir. 2011) (explaining the Board’s long-held practice of

requiring Appellant(s) to identify the alleged error in the Examiner's rejection.). We sustain the rejections for the reasons expressed by the Examiner in the Final Office Action and the Answer.

We add the following primarily for emphasis.

It has been established that “the [obviousness] analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007); *see also In re Fritch*, 972 F.2d 1260, 1264–65 (Fed. Cir. 1992) (a reference stands for all of the specific teachings thereof as well as the inferences one of ordinary skill in the art would have reasonably been expected to draw therefrom).

Appellant does not dispute the Examiner's findings based on Al-Khamis which is directed to a tool for locating (and plugging) lateral wellbores using information from sensor and acoustic transducers. The Examiner relies upon Pabon for a teaching or suggestion of receiving a reflected sonic signal “during a subsequent pre-set echo time period” (e.g., Final Action 12). Appellant's main argument is that the claim phrase of “subsequent pre-set echo time period” does not encompass Pabon's minimum and/or maximum transit times (e.g., Appeal Br. 11–13; Reply Br. 2–4). Appellant also argues that the Examiner has not explained how Almaguer discloses that the absence of a reflected signal indicates a lateral (Appeal Br. 13; Reply Br. 4). Finally, Appellant contends that the Examiner failed to explain how the prior art specifically applied to the language of independent claim 24 (Appeal Br. 13, 14). These arguments are not persuasive of reversible error.

It is well established that “the PTO must give claims their broadest reasonable construction consistent with the specification. . . . Therefore, we look to the specification to see if it provides a definition for claim terms, but otherwise apply a broad interpretation.” *In re ICON Health & Fitness, Inc.*, 496 F.3d 1374, 1379 (Fed. Cir. 2007) (“[A]s applicants may amend claims to narrow their scope, a broad construction during prosecution creates no unfairness to the applicant or patentee.”)

Here, as the Examiner aptly points out, Appellant’s Specification lacks any limiting definitions (e.g., Ans. 5). The Specification merely describes that “different schemes may be set up for the sequence” of transceivers, as well as for the “duration of pulse times, duration of echo time, frequencies, amplitudes, etc.” (Spec. 11:21–24). Notably, the Specification does not appear to describe *any* specific scheme for the pre-set echo time period of claims 1, 13 and 17, or for the “multiple pre-set echo time periods” of claim 24.

The Examiner reasonably determined that the disputed claim recitation reasonably encompasses the time periods set out in Pabon (Ans. *generally*), and also is obvious and unpatentable over Al-Khamis/Pabon’s downhole evaluation schemes that may be explicitly designed for locating lateral wellbores as taught in Al-Khamis (e.g., Ans. 5–7; Final Action 10–13).

Appellant’s contention that the Examiner did not “indicate where [the feature of locating a lateral] was specifically disclosed by Almaguer” (Appeal Br. 13) is not persuasive of reversible error as it fails to consider the applied prior art as a whole and the inferences that one of ordinary skill would have made. As Appellant recognizes (*id.*), the Examiner merely

relied upon Almaguer to exemplify that one could locate features such as joints based on the reflected acoustic echo, or perforations (Final Action 13, 14; relying on Almaguer abstract, ¶¶ 15,16, also ¶¶ 21, 60, 65 for various other features not in dispute). One of ordinary skill would have readily inferred and appreciated from the applied prior art as a whole that an absence of a reflected signal would indicate a lateral opening in a wellbore.

Appellant's arguments that the Examiner has failed to sufficiently explain how the applied prior art rendered claim 24 obvious is also not persuasive of error as they fail to consider the applied prior art as a whole and the inferences that one of ordinary skill would have made. Under the flexible inquiry set forth by the Supreme Court, the PTO must take account of the "inferences and creative steps," or even routine steps, that an ordinary artisan would employ. *Ball Aerosol and Specialty Container, Inc. v. Limited Brands, Inc.*, 555 F.3d 984, 993 (Fed. Cir. 2009) (citation omitted). The use of multiple pre-set echo time periods to, e.g., verify the absence of a reflected signal so as to indicate a lateral opening in a wellbore, would have been within the skill and creativity of one of ordinary skill in the art.

On this record, Appellant has not sufficiently explained why the claimed subject matter is "more than the predictable use of prior art elements [or steps] according to their established functions." *KSR*, 550 U.S. at 417.

Accordingly, we sustain the Examiner's rejection of independent claims 1, 13, 17, and 24, as well as all claims dependent thereon, noting that Appellant relies upon the arguments made for claim 1 for all the other claims except additional remarks are made with respect to the "multiple pre-set echo time periods" recited in claim 24 (Appeal Br. *generally*).

### CONCLUSION

In summary:

<b>Claims Rejected</b>	<b>35 U.S.C. §</b>	<b>Basis</b>	<b>Affirmed</b>	<b>Reversed</b>
1–12, 24	103	Al-Khamis, Pabon, Almaguer	1–12, 24	
13–16	103	Al-Khamis, Pabon, Almaguer, Hallunbaek	13–16	
17–20	103	Al-Khamis, Pabon, Almaguer, Morin	17–20	
21, 22	103	Al-Khamis, Pabon, Almaguer, Angehrn	21, 22	
Overall Outcome			1–22, 24	

### TIME PERIOD FOR RESPONSE

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED