

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SCIENTIFIC DRILLING INTERNATIONAL, INC.

Petitioner

v.

GUNNAR LLLP

Patent Owner

PGR2025-00061

U.S. Patent No. 12,110,780

**PATENT OWNERS REPLY BRIEF IN SUPPORT OF DISCRETIONARY
DENIAL OF INSTITUTION**

I. GROUND 3 - DONDERICI '534 IS CUMULATIVE OF KUCKES '060

Petitioner argues for the first time in its Response that Donderici '534 teaches that the connection between the wire and the drill pipe “is a rigid connection,” “discloses that one of skill in the art would think to use a rigid connection,” “is a rigid connection from a surface wire,” and “allows continuous drilling.” (Paper No. 17 at 8) Previously, Petitioner only argued that Frederikson taught a “rigid connection . . . that maintains its rigid connection as the at least one section of drill pipe is drilling.” (Paper No. 1 at 18, 24, 30 and 32-33)

In support of its argument that Donderici '534 discloses continuous drilling for claims containing that limitation (claims 1 and 18), Petitioner now cites to Donderici '534 and its disclosure of a “measurement-while-drilling” system (compare Paper 1 at 17, 29-30 with Paper 17 at 7) Petitioner’s argument is misplaced. First, Fig. 10 of Donderici '534, says “Stop[s] drilling” at step D and “Resume drilling” at step J. (Ex. 1002, Fig. 10) The specification also states that it is preferable “to interrupt drilling during wellbore ranging . . .” and that the “time between drilling stop and ranging start can be optimized” (Ex. 1002, 15:19-23) Kuckes '060 has the same teachings at Donderici '534. Specifically, Figs. 3, 9 and 10 of Kuckes disclose a standard MWD unit. (Ex. 2001 Figs. 3, 9, and 10; 9:53-54, 13:13-16) Also, like Donderici '534, Kuckes specifies that drilling is stopped for taking precise distance and direction measurements. (Ex. 2001, 12:12-16)

Turning to Petitioner's new argument that the connection between the wire and the drill pipe is "rigid" (Paper 1 at 18, 23-24, vs. 32-33 and Paper 17 at 6, 8), Petitioner points to Donderici's teaching that transmitter may be positioned at surface "with conducting wire extending down to emitter electrode E, such as shown in FIG. 1." (Paper 17 at 6) Fig. 1 illustrates transmitter 38 may be on surface, but also identifies power module 56 (which is said to contain transmitter 38) as a part of the BHA 52. (Ex. 2001, 4:1-15) Fig. 1 doesn't show "conductive wiring" extending down to emitter electrode. Instead only conveyance mechanism 48 is shown, which is described as a tubing string, drillstring or wireline/slickline (Ex. 2001, 4: 5-6; 16-17). Clearly, the embodiment of Fig. 1 is where transmitter 38 is "a part of power module 56" and is "locally carried on drill string 48," and where conveyance mechanism is tubing string or drill string; wireline or slickline cannot turn a drill bit. Further, figure 1 shows current lines from electrode E and returning through "R," where power module 56 is powering transmitter 38 which is contained therein. No current is shown flowing along conveyance mechanism 48, or at any other point from the surface position of transmitter 38. Accordingly, power for emitter electrode E in fig. 1 is being supplied by downhole power module 56, to transmitter 38 (not shown down hole), which is a part of power module 56.

Figs. 3f and 3g, teach the embodiment where the transmitter is "at the surface with conductive wiring extending down to the emitter electrode E." (Ex.

2001, 6:52-61) From col. 6 lines 52-53 it is taught that “in Fig 3f an emitter electrode E is carried by a wireline 40 that is deployed inside the drill string.” In this case, the internal conductors or wireline 40 acts as the “conducting wiring” which allows electrical energy of the transmitter on surface to send power down the wireline for delivery to the electrode E, which is suspended on the end of the wireline. Further description of this embodiment can also be found in col. 8 lines 35-38, where it states “in Figs 3f and 3g, current is delivered from a wireline 40 that is deployed inside the drill string 48 with a return electrode R placed at surface 13 (see figure 1).” In any case, Donderici ‘534 makes no reference to any wire being rigidly connected to the pipe, or reference a wire’s connection to the pipe in any way as required by the claims. Moreover, even if Donderici taught a system that did not use wireline, it is still cumulative of Kuckes ‘060. Indeed, Kuckes’ Figure 10 is an embodiment that also does not use wireline. (Ex. 2001, 13:61-63)(“In the embodiment of FIG. 10, the need for a wireline that can be lowered down the center of the drill stem is eliminated.”) Donderici ‘534 is cumulative of Kuckes ‘060.

II. GROUND 5 – DONDERICI ‘301 IS CUMULATIVE OF KUCKES ‘060

Petitioner also argues for the first time in its response that Donderici ‘301 teaches that the connection between the wire and the drill pipe “is a rigid connection,” “discloses that one of skill in the art would think to use a rigid connection,”

“is a rigid connection from a surface wire,” and “allows continuous drilling.” (Paper No. 17 at 13-14) Previously, Petitioner only argued that Frederikson taught a “rigid connection . . . that maintains its rigid connection as the at least one section of drill pipe is drilling.” (Paper No. 1 at 39-40, 46, 52-53, 56-57)

In support of its argument that Donderici ‘301 discloses continuous drilling for the claims containing that limitation (claims 1 and 18), Petitioner now cites to Donderici ‘301 and its disclosure of a “logging while drilling environment” system (compare Paper 1 at 40, 52-53 with Paper 17 at 13) Petitioner’s argument is misplaced. Donderici ‘301 equates the terms MWD (measurement while drilling) with LWD (logging while drilling). (Ex. 1003, 3:52-54)(“While distinctions between MWD and LWD may exist, the terms MWD and LWD often are used interchangeably.”) The fact that an MWD unit or an LWD unit is included in a downhole configuration does not mean that it is a continuous drilling operation. Indeed, in Figure 5 of Donderici ‘301, which describes the disclosed method, step 516 says that drilling continues, meaning that drilling has been interrupted. The specification confirms Figure 5 by stating that at “step 516, drilling at the borehole 106 continues” (Ex. 1003, 11:35-36)) Furthermore, Kuckes ‘060 has the same teachings at Donderici ‘301. Specifically, Figures 3, 9 and 10 of Kuckes disclose a standard MWD unit. (Ex. 2001 Figs. 3, 9, and 10; 9:53-54, 13:13-16) Also, like Donderici ‘301, Kuckes specifies that drilling is stopped so that precise distance

and direction measurements can be taken. (Ex. 2001, 12:12-16)

Turning now to Petitioner's new argument that the connection between the wire and the drill pipe is "rigid" in Donderici '301 (compare Paper 1 at 40, 46-47, and 56-57 and Paper 17 at 13-14), Petitioner points to Donderici's teaching that the "system control unit 104 may be positioned at surface . . . and may be communicably or communicatively coupled" to downhole tool. (Paper 17 at 13) Further, Petitioner states that "Donerici '301 teaches direct wired connections as opposed to wireline," (Paper 17 at 14) but no where in any citation made by Petitioner, or in the specification of Donderici '301, does anything indicate that the connection between the wire and the drilling pipe is a "rigid" connection. Indeed, the portions cited by Petitioner don't even discuss a wire connected to the drill pipe as required by the claims. Morfeover, even if Donderici '301 taught a system that did not use wireline, it is still cumulative of Kuckes '060. Figure 10 of Kuckes' discloses a system that does not use wireline. (Ex. 2001, 13:61-63)("In the embodiment of FIG. 10, the need for a wireline that can be lowered down the center of the drill stem is eliminated.") Donderici '301 is cumulative of Kuckes '060.

III. CONCLUSION

Patent Owner respectfully requests discretionary denial of the PGR petition on the grounds presented above and in its Brief Requesting Discretionary Denial (Paper No. 5).

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Respectfully submitted,

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CERTIFICATE OF SERVICE

The undersigned certifies that on October 23, 2025, a complete and entire copy of this PATENT OWNERS REPLY BRIEF IN SUPPORT OF DISCRETIONARY DENIAL was served by electronic mail to Petitioner's counsel of record:

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