

Ex. PGS 1018

(EXCERPTED)

**IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION**

WESTERNGECO L.L.C.,

Plaintiff,

v.

ION GEOPHYSICAL CORPORATION,

Defendant.

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) Civil Action No. 4:09-CV-01827
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) Judge Keith P. Ellison
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) Jury Trial Demanded
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**WESTERNGECO’S OPPOSITION TO ION’S RENEWED MOTION
FOR JUDGMENT AS A MATTER OF LAW AND ALTERNATIVE
MOTION FOR NEW TRIAL REGARDING NON-INFRINGEMENT (D.I. 556)**

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Dated: October 26, 2012

leveling devices that do not generate lateral forces, ION cannot infringe because not “all” streamer positioning devices contribute to turning. (D.I. 556 at 11–12) This argument fails for at least three independent reasons. First, neither the claim language nor the Court’s construction requires that *all* of the “streamer positioning devices” participate in the turn control mode. Rather the Court required only that “streamer positioning device(s),” *i.e.*, one or more, generate the force opposite the turn and that these devices then enter the feather angle mode. (D.I. 120 at 45) Mr. Brune, ION’s expert, confirmed this fact. (Trial Tr. at 3913:9–20, 3914:5–10) Second, it is not clear the DigiBIRDS are even “streamer positioning devices” as claimed in the Bittleston patents. As the Court previously noted, a purely depth-control device is likely not within the scope of the claims. (*See* D.I. 120 at 14) Therefore, the presence or absence of DigiBIRDS is irrelevant. And third, claim 18 of the ’520 patent is a “comprising” claim, *i.e.*, it is infringed if all of the limitations are satisfied even if there are additional elements in the accused product. *Amgen Inc. v. Hoechst Marion Roussel, Inc.*, 314 F.3d 1313, 1344–45 (Fed. Cir. 2003). Because ION’s DigiFIN operates in a “turn control mode,” it is irrelevant to the infringement question whether a user additionally attaches DigiBIRD devices to its streamers. ION fails to address the record evidence supporting the jury’s verdict, and instead pushes arguments that disregard the claim language, the Court’s claim construction and the admissions of ION’s own witnesses. The jury’s verdict is amply supported by evidence of infringement, and ION’s motion accordingly must fail.

B. ION Infringes Claim 15 Of The ’607 Patent

The sole basis for ION’s contention that it does not infringe claim 15 of the ’607 patent is its argument for a new claim construction of “predict”—previously rejected by the Court—that limits “prediction” to future “wall-clock” times. There is no dispute that this limited definition of “predict” is *not* the plain and ordinary meaning of “predict” to a person of ordinary skill in the

art, nor is it the construction the Court reached during claim construction proceedings. It is undisputed that ION infringes under the ordinary meaning of “predict” to one of skill in the art, which fact is dispositive. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1323 (Fed. Cir. 2005).

i. WesternGeco Presented Considerable Evidence of Infringement

WesternGeco’s ’607 patent claims a control system including a “prediction unit,” *e.g.*, “position predictor software *to estimate the actual locations* of the [streamer positioning devices].” (PTX 3 at 4:53–55 (emphasis added)) Because the size of the array being steered leads to delay and error with location measurements, past data is projected forward in time to predict later positions. It is undisputed that ION’s DigiFIN system runs a “Kalman filter” that predicts the actual positions of the DigiFINs in this exact manner. (Trial Tr. at 1549:14–16 (“MR. PIERCE: All the -- they keep referring to the prediction in our code, which is a Kalman filter, as Your Honor has heard a lot about.”)) As ION agrees, the Kalman filter “uses a past measurement to ‘predict’ the present position of the DigiFINs.” (D.I. 470 at 8) WesternGeco’s technical experts—Dr. Triantafyllou and Dr. Leonard—testified how ION’s Kalman filter predicts the positions of DigiFIN devices. (*See, e.g.*, Trial Tr. at 1273:25–1280:4, 1345:9–1354:13, 1512:2–1523:1) And the record evidence confirms that the term “predict,” as used in the art of control systems, merely means moving a past measured position forward to a later time. (Trial Tr. at 1403:17–19, 1407:8–14, 1408:21–1409:16, 1530:7–13, 1539:11–1540:8) It does not require—nor does it preclude—that the prediction be in the “future” based on a “wall clock.” ION’s expert, Mr. Brune, confirmed this usage of “prediction,” as well as Dr. Leonard’s testimony. (*See* Trial Tr. at 3811:3–14, 3930:11–16) It is undisputed that ION infringes under this use of the term “predict.”

ION’s product documentation uses the term “predict” to describe ION’s Kalman filter. (PTX 171 at 5 (emphasis added); *see also* Trial Tr. at 1349:21–1354:13, 1512:2–1513:2)

Crawford Macnab, ION’s software manager, confirmed ION’s “prediction.” (Trial Tr. at 2055:24–2056:4 (“It’s predicting the position of all nodes.”); *see also id.* at 3352:2–14, 3366:18–3367:9) ION’s source code—presumably written by engineers skilled in the art—uses the term “prediction” hundreds of times to describe ION’s infringing products. (*See, e.g.*, Trial Tr. 1514:6–1522:4, 1526:16–1527:18; PTX 273; PTX 274; PTX 282; PTX 561) ION’s technical expert failed to offer *any* non-infringement opinion for the ’607 patent. (Trial Tr. at 3930:5–10) Based on this record evidence—full of both sides’ expert testimony, ION engineer testimony and ION’s product documentation all confirming that ION’s system “predicts” positions—the jury’s verdict was proper, amply supported, and should not be disturbed.

ii. The Jury’s Verdict Is Consistent with the Ordinary Meaning of “Predict” in the Field of the Patents

This Court previously expressed that “Defendants have not persuaded the Court that one meaning should be attributed to the term ‘predict’ when it is used in WesternGeco’s patents, but that an entirely different meaning applies to the word as used in [ION’s] Kalman filter’s source code.” (D.I. 365 at 52) “Ultimately, the expert testimony, including testimony from ION’s own expert, suggests that such divergence between the two meanings may not exist.” (*Id.*; *see also* Trial Tr. at 3811:3–14, 3812:20–24 (ION’s expert, Mr. Brune))

Dr. Triantafyllou testified that one of ordinary skill in the art of control systems would consider software like ION’s Kalman filter to “predict” positions. (*See, e.g., id.* at 1276:6–1277:16, 1346:21–1347:21, 1348:14–20) Both Dr. Triantafyllou and Dr. Leonard also testified that this use of the term “predict” was consistent with its general usage in the field of control systems. (Trial Tr. at 1407:18–23, 1528:25–1529:6) And the ’607 patent teaches examples of “prediction” that estimates present-time locations:

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