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

WESTERNGECO L.L.C.,	)	
Plaintiff,	)	Civil Action No. 4:09-CV-01827
v.	)	**Jury Trial Demanded**
ION GEOPHYSICAL CORPORATION,	)	
Defendant.	)	

WESTERNGECO'S REPLY CLAIM CONSTRUCTION BRIEF

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Plaintiff WesternGeco L.L.C. ("WesternGeco") respectfully submits its Reply Claim Construction Brief in further support of WesternGeco's proposed constructions set forth in the parties' Joint Claim Construction and Prehearing Statement (D.I. 39).

SUMMARY OF ARGUMENT

WesternGeco filed its Complaint on June 12, 2009 to halt ION Geophysical Corp.'s ("ION's") willful infringement of U.S. Patent Nos. 6,932,017 ("the '017 patent"); 7,080,607 ("the '607 patent"); 7,162,967 ("the '967 patent") and 7,293,520 ("the '520 patent") (collectively, "the Bittleston patents"); and 6,691,038 ("the Zajac '038 patent"). (D.I. 1) ION filed a counterclaim for alleged infringement of one ION patent. (D.I. 6) This Reply addresses the parties' proposed constructions for the five WesternGeco patents.

The Federal Circuit's 2005 *en banc* decision in *Phillips* sets forth the proper framework for claim construction. It holds that disputed claim terms are properly construed based on their ordinary meanings in the context of the patent. As set forth in WesternGeco's Opening Brief ("WGOB"), WesternGeco's proposed constructions for the Bittleston and Zajac patents are based on this intrinsic record. They are properly adopted by the Court.

As also set forth in WesternGeco's Opening Brief, however, ION's proposed constructions commit the "cardinal sin of claim construction" by improperly limiting WesternGeco's patents to their preferred embodiments. They violate the requirements of *Phillips* by: (1) reading limitations into the claims; (2) ignoring the ordinary meaning of the claim terms; (3) relying heavily on extrinsic evidence; (4) excluding disclosed embodiments; (5) rendering claim terms superfluous; and (6) rendering claims duplicative. As discussed below, any of these flaws would be improper. Many of ION's proposed constructions suffer them all.

ION's Response Brief ("IRB") concedes that many of its proposed constructions were improper. For some, ION now agrees with WesternGeco's proposed constructions. For others,

however, ION offers "revised" proposed constructions that merely repeat the same flaws. They still ignore the ordinary meaning of claim terms and read limitations into the claims. They still restrict the patents to preferred embodiments and exclude other embodiments. And they still render claim terms superfluous and render claims duplicative. As discussed below, ION's Response fails to even address the applicable case law cited in WesternGeco's Opening Brief. Even as "revised," ION's proposed constructions remain properly rejected.

ARGUMENT

I. CLAIM TERMS ARE PROPERLY CONSTRUED BASED ON THEIR ORDINARY MEANING IN LIGHT OF THE PATENT'S SPECIFICATION

"[T]he words of a claim 'are generally given their ordinary and customary meaning' . . . in the context of the entire patent, including the specification." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (*en banc*). Unless unusual or technical terms are recited, claim construction can "involve little more than the application of the widely accepted meaning of commonly understood words." *Id.* at 1314.

"[W]hen the preferred embodiment is described in the specification as the invention itself, the claims are not necessarily entitled to a scope broader than that embodiment." *Watts v. XL Sys., Inc.*, 232 F.3d 877, 882 (Fed. Cir. 2000); *see also Verizon Servs. Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295, 1308 (Fed. Cir. 2007) (construing claims in light of a description of "the present invention"); *Honeywell Int'l, Inc. v. ITT Indus., Inc.*, 452 F.3d 1312, 1318 (Fed. Cir. 2006) (same). However, the "use of the phrase 'the present invention' does not 'automatically' limit the meaning of claim terms in all circumstances." *Netcraft Corp. v. eBay, Inc.*, 549 F.3d 1394, 1398 (Fed. Cir. 2008); *Rambus, Inc. v. Infineon Techs. AG*, 318 F.3d 1081, 1094 (Fed. Cir. 2003) ("such language must be read in context of the entire specification"). For example, it is improper to rely on descriptions of "the present invention" to exclude other

disclosed embodiments. *Verizon*, 503 F.3d at 1305 ("We normally do not interpret claim terms in a way that excludes disclosed examples in the specification."); *Colorquick, LLC v. Eastman Kodak Co.*, No. 6:06-CV-390, 2008 WL 5771324, at *7 n.9 (E.D. Tex. June 25, 2008) (distinguishing *Honeywell* on this basis).

In fact, it is the "cardinal sin of claim construction" to limit claims terms to a preferred embodiment. *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1324 (Fed. Cir. 2002). It is also generally improper for a proposed construction to render superfluous other terms in the claim. *Merck & Co., Inc. v. Teva Pharms. USA, Inc.*, 395 F.3d 1364, 1372 (Fed. Cir. 2005). And a proposed construction that would render two claims identical in scope violates the doctrine of claim differentiation. *Phillips*, 415 F.3d at 1314-15. Extrinsic evidence is "less significant than the intrinsic record" and cannot override these rules. *Id.* at 1317.

II. PROPOSED CONSTRUCTIONS FOR THE BITTLESTON PATENTS

(a) "streamer positioning device(s)"

Claim	Term	WesternGeco's Proposed Construction	ION's Proposed Construction
'017-1, 3-5, 7-8, 16; '967-1-9, 15; '607-1, 4-6, 8-9, 15; '520-1, 9, 18, 26	"streamer positioning device(s)"; "the positioning device"	a device that controls the position of a streamer as it is towed (*e.g.*, a "bird")	device(s) used to steer/position the streamer both vertically and horizontally[1]

As set forth in WesternGeco's Opening Brief, there is no contention that "streamer," "positioning" or "device" have any unusual meanings or would be confusing for a jury. (WGOB at 10-11) Therefore, this term is properly construed by "the application of the widely accepted meaning of commonly understood words." *Phillips*, 415 F.3d at 1314. WesternGeco's proposed construction tracks the ordinary meaning of the term, and is based on the specification's broad disclosure of various streamer positioning devices which control only vertical position, control

[1] ION's Response Brief deletes any requirement of vertical and horizontal steering for its "revised" proposed constructions of "global control system" and "local control system." (IRB at 7-8 & 7 n.4) However, ION has not similarly corrected its proposed construction of "streamer positioning device."

only horizontal position, or control both. (WGOB at 11-12; Ex. 1 at 1:24-27; 1:34-36; 1:47-52; 2:5-6; 10:23-30)[2] ION does not dispute these facts. (IRB at 4-6)

ION's proposed construction improperly excludes some of these embodiments. *See* WGOB at 11-12; *Verizon*, 503 F.3d at 1305 (rejecting construction "that excludes disclosed examples in the specification"). It is additionally improper because it would render other claim language superfluous, *e.g.*, "to steer the streamer positioning device laterally." *See* WGOB at 11; *Stumbo v. Eastman Outdoors, Inc.*, 508 F.3d 1358, 1362 (Fed. Cir. 2007); *Merck*, 395 F.3d at 1372; *Phillips*, 415 F.3d at 1314. And it commits the "cardinal sin of claim construction" by limiting the claim term to a preferred embodiment. *See* WGOB at 11-12; Ex. 1 at 3:29-30 ("***Preferably*** the birds 18 are both vertically and horizontally steerable.");[3] *Halliburton Energy Svcs., Inc. v. M-I LLC*, 514 F.3d 1244, 1251 (Fed. Cir. 2008) (noting that the use of "preferably" "strongly suggests that . . . [it] is simply a preferred embodiment"); *Teleflex*, 299 F.3d at 1324; *DSW, Inc. v. Shoe Pavilion, Inc.*, 537 F.3d 1342, 1348 (Fed. Cir. 2008) ("[I]t is well-settled that claims are not to be confined to [a preferred] embodiment.").

ION's Response Brief fails to address these flaws, or to even cite *Phillips*, *Stumbo*, *Merck*, *DSW* or *Teleflex*. (IRB at 4-6) The only purported evidence ION raises is: (1) a description of "the invention" that discusses lateral steering; (2) a disclosure of preferred "modes" purportedly including vertical and horizontal steering; and (3) extrinsic evidence. None of this supports ION's proposed construction.

First, ION's purported reliance on *Verizon* and *Honeywell* for construing claim terms in

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2 Exs. 1-45 refer to exhibits submitted with WesternGeco's Opening Brief.

3 Unless otherwise indicated, all emphases are added.

light of descriptions of "the present invention" is inapposite — the passage cited by ION does not mention, much less require, vertical steering. *See* Ex. 1 at 2:47-60; *Verizon*, 503 F.3d at 1303 (refusing to limit a claim where the description of "the present invention" was unrelated to the feature defendant proposed reading into the claim). It fails to support ION's argument.

Second, the various "modes" recited in the Bittleston patents represent, at most, preferred or alternate embodiments. None are described as "the present invention." And, in any event, most if not all of the disclosed control modes do not require vertical steering. (Ex. 1 at 9:53-10:11; *see also* §II(h), *infra*) They fail to provide any support for ION's proposed construction.

Third, ION's purported reliance on extrinsic evidence is improper because it cannot be used to contradict the intrinsic record. *Phillips*, 415 F.3d at 1317. Moreover, the testimony of Peter Canter which ION cites merely confirms that vertical and horizontal steering is a preferred embodiment: "It's my view that they can do depth and/or lateral positioning." (IRB Ex. A at 126:22-23) The testimony of Jeffrey Wendt, also cited by ION, is similar: "the streamer steering device could -- could be laterally controlled or vertically controlled or both, depending on a client's needs." (Ex. 41 at 52:19-53:2) So is the testimony of Simon Bittleston: "It describes [depth control] as one thing that might be done, but it doesn't say that it has to be done." (IRB Ex. C at 160:4-12) ION's extrinsic evidence merely confirms that ION's proposed construction is improper. None of ION's purported evidence overcomes the flaws of ION's proposed construction, *e.g.*, excluding disclosed embodiments, rendering claim language superfluous and limiting the claims to a preferred embodiment. For all of these reasons — which stand unrebutted — ION's proposed construction is still properly rejected.

(b) "global control system"

Claim	Term	WesternGeco's Proposed Construction	ION's Proposed Construction	ION's Revised Proposed Construction
'017-7, 8; '607-7, 8; '967-1, 4, 5, 8, 9, 15	"global control system"	a control system that sends commands to other devices in a system (*e.g.*, local control systems)	system that monitors the positioning of the streamers and provides the desired vertical and horizontal forces or vertical and horizontal positioning information to the local control systems	system that monitors the position of the streamers and provides the desired forces or desired positioning information to the local control systems

As set forth in WesternGeco's Opening Brief, the Bittleston patents teach a variety of distributions of streamer array control, including between a global control system and local control systems. (WGOB at 12-13) WesternGeco's proposed construction of a "global control system" is based on the term's ordinary meaning in this context. (*Id.*) ION does not dispute this fact. (IRB at 7) WesternGeco's proposed construction is proper under *Phillips*.

ION's proposed construction, however, improperly restricts the patent to preferred embodiments. *See, e.g.*, WGOB at 13; *Phillips*, 415 F.3d at 1323. There is nothing in the ordinary meaning of "global control system" that limits the commands sent or the recipients of those commands. In fact, the Bittleston patents teach that the global control system can issue many types of commands, such as a desired force, a desired location, a desired displacement or a desired wing angle. (Ex. 1 at 5:54-58, 5:63-67, 6:11-14, 6:17-21, Cl. 7) And while some claims explicitly recite "local control systems" as the recipients of these commands, other claims are broader. *Compare* Ex. 3 at Cls. 1, 15 *with* Ex. 1 at Cls. 7, 8; *see also Praxair, Inc. v. ATMI, Inc.*, 543 F.3d 1306, 1326 (Fed. Cir. 2008) ("[T]he structure of the claims confirms that [a proposed restriction] was not intended to be a feature of the invention as a whole."). ION's proposed construction — even as "revised" — improperly limits the claims to preferred embodiments and excludes other embodiments. *See* WGOB at 12-13; *Teleflex*, 299 F.3d at 1324; *Halliburton*, 514 F.3d at 1251; *DSW*, 537 F.3d at 1348; *Verizon*, 503 F.3d at 1305.

In its Response, ION argues that: (1) a description of "the inventive control system" should be used to limit "a global control system"; and (2) ION's "revised" proposed construction

no longer excludes disclosed embodiments. (IRB at 6-7) Neither argument has merit.

First, ION's purported reliance on a description of "the inventive control system" is misplaced. (IRB at 6) Unlike the language at issue in *Verizon* and *Honeywell*, the language cited by ION merely discusses what "the inventive control system is based on," not what "the present invention is." *See Verizon*, 503 F.3d at 1308; *Honeywell*, 452 F.3d at 1318. In fact, the specification earlier teaches that this description is merely a preferred embodiment:

> ***In the preferred embodiment of the present invention***, the control system for the birds 18 is distributed between a global control . . . and a local control system . . .

(Ex. 1 at 3:36-40). The context of the specification confirms that the claims are not limited to the one embodiment ION cites. *See Praxair*, 543 F.3d at 1326 ("Although these statements appear to pertain to the invention overall, rather than a specific embodiment of the invention, they are contradicted by a number of express statements in the [patent's] specification . . .").

Second, ION's "revised" proposed construction still improperly excludes disclosed embodiments. *Verizon*, 503 F.3d at 1305. This would be improper even if the specification had discussed "the present invention." *Rambus*, 318 F.3d at 1094-95; *Colorquick,* 2008 WL 5771324, at *7 n.9; *Plasmart Inc. v. Wincell Int'l Inc.*, No. 05-10745, 2007 WL 3355509, at *8 (S.D.N.Y. Nov. 8, 2007) ("I do not read *Verizon* to mean that, when presented with magic words such as 'present invention' or 'the invention herein,' district courts should disregard contrary indications in the language of the claims, as well as other language of the specifications."). Although ION argues that "'desired positioning information' would encompass both desired location and displacement," IRB at 7, the term "positioning information" is not used in the specification, lacks intrinsic support, and is of unclear scope. And even if ION were correct as to this argument, ION's proposed construction appears to still exclude disclosed embodiments where the global controller "calculat[es] a desired change in the wing orientation," Ex. 1 at Cl. 7,

or where the global controller monitors the positions of birds, rather than the streamers, Ex. 1 at 3:61-63. Therefore, ION's "revised" proposed construction remains improper.

(c) "local control system"

Claim	Term	WesternGeco's Proposed Construction	ION's Proposed Construction	ION's Revised Proposed Construction
'967-1, 2, 4, 5, 7, 15	"local control system"	a control system located on or near the streamer positioning devices (*e.g.*, birds)	system located within each streamer positioning device that uses the desired forces or desired position information from the global control system to control the movement of the wings by calculating a desired change in the angle of the wings	system located within each streamer positioning device that uses the desired forces or desired position information from the global control system to control the movement of the wing(s)

As set forth in WesternGeco's Opening Brief, the Bittleston patents teach local control systems "located within or near the birds." (WGOB at 14) These local control systems can interact with the global control system in a number of ways, adding flexibility to the overall control system — one of the strengths of the Bittleston patents. (*Id.* at 13-14) WesternGeco's proposed construction is consistent with the ordinary meaning of the term in light of this intrinsic evidence. ION does not dispute this fact. (IRB at 8)

ION's proposed construction, however, is flawed for excluding disclosed embodiments such as local control systems "near the birds" (WGOB at 14; Ex. 1 at 3:36-40); for limiting the signals the local control systems can receive (WGOB at 13-14, § II(b), *supra*); and for excluding embodiments where the global controller "calculat[es] a desired change in the orientation of the wings." (WGOB at 14) ION fails to address these flaws in its Response. (IRB at 8)

In its single paragraph, ION instead focuses on the statement regarding "the inventive control system," discussed above. (IRB at 8) As with the global control system, however: (1) this is not a description of "the present invention"; (2) this is not the "Summary of the Invention"; (3) this is merely a preferred embodiment, as explained by other portions of the specification; and (4) ION's proposed revised proposed construction still excludes the disclosed embodiments discussed above. ION's "revised" proposed construction is still properly rejected.

(d) "location information"

Claim	Term	WesternGeco's Proposed Construction	ION's Proposed Construction
'967-1, 8, 15	"location information"	information regarding location	desired vertical depth and horizontal position

As set forth in WesternGeco's Opening Brief, the Bittleston patents teach a variety of types of "location information." (WGOB at 15) In its Response Brief, ION concedes this fact and accepts that WesternGeco's proposed construction is proper. (IRB at 8) However, ION requests "clarification" that this term does not include "force information." (IRB at 8-9) It is unclear that the intrinsic record draws a rigid line between location and force information or, in any event, how ION proposes to incorporate this distinction into the claim construction.

(e) "on or in-line with"

Claim	Term	WesternGeco's Proposed Construction	ION's Proposed Construction	ION's Revised Proposed Construction
'607-15; '967-15	"on or in-line with"	attached externally to or in-line with	directly attached to or connected with	attached to or inline with

As set forth in WesternGeco's Opening and Response Briefs, two types of streamer devices were known at the time of the Bittleston patents: (1) devices attached externally to the streamer; and (2) devices in-line with the streamer. (WGOB at 6; WesternGeco Response Brief at 3 & n.2) WesternGeco's proposed construction is based on the ordinary meaning of the prepositions "on" and "in-line with" in this context. ION, in contrast, fails to provide any support for its "revised" proposed construction of "on" as "attached to." (IRB at 9)

(f) "feather angle mode"

Claim	Term	WesternGeco's Proposed Construction	ION's Proposed Construction	ION's Revised Proposed Construction
'017-7; '607-7; '967-8; '520-1, 2, 18-19	"feather angle mode"	a control mode that attempts to set and maintain each streamer in a straight line offset from the towing direction by a certain feather angle	mode wherein the global control system directs each streamer positioning device to keep each streamer in a straight line offset from the towing direction by a certain feather angle	mode wherein the global control system attempts to keep each streamer in a straight line offset from the towing direction by a certain feather angle

As set forth in WesternGeco's Opening Brief, a "feather angle" is the angle formed between a streamer and the direction the ship is traveling, and a "feather angle mode" is a control

mode that attempts to control this feather angle. (WGOB at 16) ION does not dispute that WesternGeco's proposed construction is consistent with this ordinary meaning. (IRB at 9-10)

Even as "revised," however, ION's proposed construction still improperly reads a "global control system" into the claims. This renders superfluous separate language in some claims that the global control system implements the control mode. *See, e.g.*, Ex. 1 at Cl. 7, Ex. 2 at Cl. 7; *Stumbo*, 508 F.3d at 1362. And it ignores the context of the claims for those claims that do not recite a global controller. *See, e.g.*, Ex. 4 at Cls. 1, 2; *Phillips*, 415 F.3d at 1314-15. ION fails to address these facts in its Response. (IRB at 10) Notably, ION has deleted any requirement of a global control system in its "revised" proposed construction of "turn control mode." (IRB at 10)

(g) "turn control mode"

Claim	Term	WesternGeco's Proposed Construction	ION's Proposed Construction	ION's Revised Proposed Construction
'017-7; '607-7; '967-8; '520-1, 5, 18, 23	"turn control mode"	a control mode in which the streamer positioning devices first generate force in the opposite direction of the turn and then are directed back into position	mode wherein the global control system first directs each streamer positioning device(s) to generate force in the opposite direction of a turn and then directing each streamer positioning device to the position defined in the feather angle mode	mode wherein streamer positioning device(s) generate a force in the opposite direction of a turn and then directing each streamer positioning device to the position defined in the feather angle mode

As set forth in WesternGeco's Opening Brief, a "turn control mode" is a mode to control the turning of the seismic array. (WGOB at 17) The only dispute is whether the "turn control mode" is limited to what mode is selected after the turn is completed.

Even as "revised," ION's proposed construction still improperly reads a "feather angle mode" into the end of a turn control mode. This renders language superfluous in those claims that recite a feather angle mode after completing the turn control mode. *See, e.g.*, Ex. 4 at Cl. 6; *Stumbo*, 508 F.3d at 1362. It ignores the context of those claims that explicitly do not. *See, e.g.*, Ex. 4 at Cl. 9; *Phillips*, 415 F.3d at 1314-15. And it violates the doctrine of claim differentiation by conflating the scope of Claims 6 and 9 of the Bittleston '520 patent. *See, e.g.*, WGOB at 17-18; *Phillips*, 415 F.3d at 1315 ("[T]he presence of a dependent claim that adds a particular

limitation gives rise to a presumption that the limitation in question is not present in the independent claim.") ION fails to address any of these facts in its Response. (IRB at 10)

(h) "streamer separation mode"

Claim	Term	WesternGeco's Proposed Construction	ION's Proposed Construction	ION's Revised Proposed Construction
'017-8; '607-8; '967-9; '520-1, 13, 18, 30	"streamer separation mode"	a control mode that attempts to set and maintain the spacing between adjacent streamers	mode wherein the global control system directs each streamer positioning device to maximize the distance between adjacent streamers	mode wherein the global control system attempts to maximize the distance between adjacent streamers

As set forth in WesternGeco's Opening Brief, a "streamer separation mode" controls the separation or spacing between adjacent streamers. (WGOB at 18) While some embodiments attempt to maximize the distance between adjacent streamers (*e.g.*, Ex. 1 at 10:14-16; Ex. 4 at Cl. 14), others do not (*e.g.*, Ex. 4 at Cl. 13). ION's proposed construction again renders language superfluous for those claims that recite a global controller (*e.g.*, Ex. 1 at Cl. 8), ignores context for those that do not (*e.g.*, Ex. 4 at Cl. 1), and violates the doctrine of claim differentiation (*e.g.*, *id.* at Cls. 13, 14). ION again fails to address any of these facts in its Response. (IRB at 10-11)

(i) "means for obtaining a predicted position of the streamer positioning devices"

Claim	Term	WesternGeco's Proposed Construction	ION's Proposed Construction
'017-16	"means for obtaining a predicted position of the streamer positioning devices"	a global control system or position predictor software, and equivalents thereof	global control system 22 and predictor software; and equivalents thereof

As set forth in WesternGeco's Opening Brief, the Bittleston patents teach that position predictor software can be used for "obtaining a predicted position of the streamer positioning device." (WGOB at 19) ION does not dispute this fact, but argues that both the global control system and position predictor software are required to fulfill this function. (IRB at 11) While the position predictor software ***may*** run on the global control system in some embodiments, there is no indication that it requires a global control system to operate. *See Asyst Techs., Inc. v. Empak, Inc.*, 268 F.3d 1364, 1371 (Fed. Cir. 2001) ("The corresponding structure to a function set forth in a means-plus-function limitation must actually perform the recited function, not

merely enable the pertinent structure to operate as intended. . . ."). As previously discussed, one of the benefits of the Bittleston patents is flexibility in apportioning control between a global and local control system. (WGOB at 13-14) ION's attempt to restrict the location of the position predictor software runs counter to this teaching and should be rejected.

(j) "means for obtaining an estimated velocity of the streamer positioning devices"

Claim	Term	WesternGeco's Proposed Construction	ION's Proposed Construction
'017-16	"means for obtaining an estimated velocity of the streamer positioning devices"	a global control system, flowmeters or water velocity sensors, and equivalents thereof	flowmeters; water velocity sensors; and equivalents thereof

There is no dispute that flowmeters and water velocity sensors are disclosed structures for obtaining an estimated velocity of the streamer positioning devices. ION argues, however, that the global controller is not disclosed as a third alternative. (IRB at 12) ION is mistaken.

The Bittleston patents teach that the global control system can determine the "forces the birds should impart on the seismic streamers." (Ex. 1 at 4:6-11) And the patents teach that "current speed and heading," *i.e.*, velocity, is "estimated based on the average forces acting on the streamers 12 by the birds 18." (*Id.* at 4:42-44) Therefore, the global control system can estimate the velocity of the birds. In fact, the patents teach that the global control system sends this estimated velocity to the birds. (*Id.* at 4:44-48) Although ION argues that this teaching is somehow not clear enough, it is understandable to those of ordinary skill in the art. (Ex. 18 at ¶48) ION's proposed construction excludes disclosed structures, and is therefore properly rejected. *See Callicrate v. Wadsworth Mfg., Inc.*, 427 F.3d 1361, 1368-70 (Fed. Cir. 2005).

(k) "means for calculating desired changes in the orientations of the respective wings of at least some of the streamer positioning devices using said predicted position and said estimated velocity"

Claim	Term	WesternGeco's Proposed Construction	ION's Proposed Construction	ION's Revised Proposed Construction
'017-16	"means for calculating desired changes in the orientations of the	a global control system, a local control system, a look-up table or a conversion routine, and	(1) global control system 22, desired horizontal force 44, desired vertical force 44, local control system 36, and current common wing angle; (2) global	global control system 22; local control system 36 and localized displacement/force

	respective wings of at least some of the streamer positioning devices using said predicted position and said estimated velocity"	equivalents thereof	control system 22, magnitude and direction of desired total force 46, local control system 36, and current common wing angle; **OR** (3) local control system 36, localized displacement/force conversion program, global control system 22, location information, desired horizontal force, and current common wing angle; and equivalents thereof	conversion program; and equivalents thereof

ION's "revised" proposed construction concedes much of the parties' disputes regarding this limitation. Even as revised, however, ION's proposed construction still improperly excludes a "look-up table" — a disclosed structure (Ex. 1 at 6:6-11) — and improperly limits the "conversion program" to the local controller. (WGOB at 21) ION's propsoed construction still omits disclosed structures and is properly rejected. *Callicrate*, 427 F.3d at 1368-70.

(l) "means for actuating the wing motors to produce said desired changes in wing orientation"

Claim	Term	WesternGeco's Proposed Construction	ION's Proposed Construction
'017-16	"means for actuating the wing motors to produce said desired changes in wing orientation"	a local control system or motor drivers, and equivalents thereof	motor driver 62; and equivalents thereof

The Bittleston patents teach that "[t]he local control system 36 controls the movement of the wings 28 by . . . selectively driving the motors 34 to effectuate this change . . ." (Ex. 1 at 5:31-37) ION's only argument to ignore this intrinsic record is based on purported extrinsic evidence. (IRB at 13) But extrinsic evidence cannot be used to contradict the intrinsic record. *Phillips*, 415 F.3d at 1317. ION's argument is properly rejected.

III. PROPOSED CONSTRUCTIONS FOR THE ZAJAC '038 PATENT

(a) "active streamer positioning device (ASPD)"

Claim	Term	WesternGeco's Proposed Construction	ION's Proposed Construction
1, 14, 20, 25, 26, 39, 45, 50	"active streamer positioning device (ASPD)"	a device for controlling the horizontal and/or vertical position of a seismic streamer	device used to control the vertical and horizontal positioning of a streamer

As set forth in WesternGeco's Opening Brief, neither party argues that the constituent terms of this limitation have unusual meanings or would be confusing to a jury — both parties even include "streamer," "position[ing]," and "device" in their proposed constructions. (WGOB

at 22) Therefore, claim construction should "involve[] little more than the application of the widely accepted meaning of commonly understood words." *Phillips*, 415 F.3d at 1314. WesternGeco's proposed construction does just that, and is therefore properly adopted.

ION's proposed construction, however, seeks to read vertical and horizontal positioning into this claim term. This is improper, as the Zajac '038 patent explicitly teaches ASPDs that do not control vertical positioning. (*See* WGOB at 22) ION now concedes this fact: "an ASPD can be operated in only a horizontal positioning mode." (IRB at 15) This exclusion of disclosed embodiments is fatal to ION's proposed construction. *Verizon*, 503 F.3d at 1305.

Additionally, combined vertical and horizontal positioning is explicitly disclosed as a preferred embodiment. (Ex. 5 at 7:2-3 ("***Preferably*** the ASPDs 18 are both vertically and horizontally steerable.")) The use of the word "preferably" to refer to this embodiment "strongly suggests that . . . [it] is simply a preferred embodiment." *Halliburton*, 514 F.3d at 1251. And "it is well-settled that claims are not to be confined to [a preferred] embodiment." *DSW*, 537 F.3d at 1348. ION fails to address this fact in its Response. (IRB at 14-15)

ION's sole argument for requiring both vertical and horizontal positioning appears to be that because the claims cover one or more ASPDs per streamer, embodiments with only one ASPD would have to perform both vertical and horizontal positioning. (IRB at 14-15) It is unclear how this argument supports ION's proposed construction.

The Federal Circuit "has repeatedly emphasized that an indefinite article 'a' or 'an' in patent parlance carries the meaning of 'one or more.'" *Scanner Techs. Corp. v. ICOS Vision Sys. Corp.*, 365 F.3d 1299, 1304 (Fed. Cir. 2004). This is reinforced by the patent's use of "comprising" claims, which are not limited to the minimum disclosed elements but can include additional components. *CIAS, Inc. v. Alliance Gaming Corp.*, 504 F.3d 1356, 1360 (Fed. Cir.

2007). There is simply no support for ION's argument that the claims "require only one ASPD per streamer" and that "the patentee limited the scope of his invention to requiring only one ASPD per streamer." (IRB at 14-15) In fact, the Zajac '038 patent discloses many embodiments with more than one ASPD per streamer. (Ex. 5 at 7:1-2 ("Located between the deflector 16 and the tail buoy 20 are a plurality of ASPDs 18."); *id.* at 3:5-6 ("One or more ASPDs is employed on each seismic array."); *id.* at 7:3-5 ("These ASPDs 18 may, for instance, be located at regular intervals along the individual streamers, such as every 200 to 400 meters.")) ION does not dispute that for these embodiments, each ASPD need not control both vertical and horizontal positioning. ION's proposed construction improperly excludes these embodiments.

ION's argument appears to be that, since ION can conceive of an embodiment with ASPDs that perform both vertical and horizontal positioning, all embodiments must be so limited. ION cites no case law that supports such an argument. And none exists. ION's citation to case law regarding descriptions of "the present invention," *i.e.*, *Verizon* and *Honeywell*, is inapposite since the cited portion of the specification does not require that an ASPD be capable of vertical and horizontal positioning. *Verizon*, 503 F.3d at 1303 (rejecting a "present invention" argument because the specification did not recite the feature defendant tried to read into the claims). And ION's construction is additionally inappropriate for failing to account for explicitly disclosed embodiments. *Id.* at 1305; *Colorquick*, 2008 WL 5771324, at *7 n.9 (distinguishing *Honeywell* as inapplicable if it would exclude other disclosed embodiments); *Plasmart*, 2007 WL 3355509, at *8 (same regarding *Verizon*). Moreover, the fact that "vertical and horizontal" was added to some claims during prosecution is inapposite, IRB at 14-15, because there was no "clear and unambiguous" disclaimer of scope of "ASPD." *Inverness Med. v. Princeton Biomeditech Corp.*, 309 F.3d 1365, 1372 (Fed. Cir. 2002). In fact, the claims' separate recitation

of "vertical and horizontal" reinforces the impropriety of ION's construction, because it would render this later claim language superfluous. *Merck*, 395 F.3d at 1372.

(b) "a master controller"

ION's Response Brief concedes that WesternGeco's proposed construction — "a controller that sends commands to other devices in a system" — is proper. (IRB at 15-16)

(c) "the master controller"

Claim	Term	WesternGeco's Proposed Construction	ION's Proposed Construction
29-32, 48-50	"the master controller"	a master controller	Indefinite

As set forth in WesternGeco's Opening Brief, the master controller of the Zajac '038 patent is a singular concept — neither the claims nor the specification teach a system with multiple master controllers. (WGOB at 24) ION does not dispute this fact. (IRB at 16-18) There is only one master controller to which "the master controller" can refer.

Although Claims 29-32 and 48-50 lack an antecedent basis for "the master controller," ION concedes that this would only be indefinite if the meaning of the term "is not ascertainable." (IRB at 16) Because the patent teaches systems with only one master controller, it is readily ascertainable that the term "the master controller" is equivalent to "a master controller." (Ex. 18 at ¶ 28) And it is undisputed that "a master controller" is definite. (IRB at 15-16) Construing "the master controller" as "a master controller" is consistent with the intrinsic record and would remove any alleged ambiguity. *Process Control v. HydReclaim Corp.*, 190 F.3d 1350, 1356-57 (Fed. Cir. 1999) ("[courts] should attempt to construe the claims to preserve their validity").

ION's principal argument appears to be that claims which recite "a master controller" further recite "positioning commands," whereas the claims reciting "the master controller" do not. (IRB at 17-18) It is unclear how this fact is relevant to the definiteness of "the master controller," and ION fails to cite any cases to support its argument. (IRB at 17-18) But even if this argument had any legal relevance, ION is mistaken as to the facts. The dependent claims

that recite "the master controller" stem from independent claims that do, in fact, recite "positioning commands." (*See, e.g.*, Ex. 5 at Cl. 26 ("issuing vertical and horizontal positioning commands"), Cl. 45 (same)) And contrary to ION's arguments, every claim reciting "the master controller" also "describ[es] specific types of and functions for master controllers." (IRB at 17) For example, Claim 29 recites that the master controller "compares the positions of the streamers versus time and the array geometry versus time and issues positioning commands to the ASPDs." ION's argument lacks factual support and is properly rejected.

(d) "positioning commands"

Claim	Term	WesternGeco's Proposed Construction	ION's Proposed Construction	ION's Revised Proposed Construction
1, 14, 20, 25, 26, 39, 44, 45, 50	"positioning commands"	signals to control positioning	instructions to change positions generated and formatted by the master controller but transmitted by an active positioning commander to instruct the ASPDs to change positions	instructions to control positioning

As set forth in WesternGeco's Opening Brief, the ordinary meaning of "positioning commands" is "signals to control positioning." (WGOB at 18) ION's "revised" proposed construction is nearly identical to WesternGeco's. (IRB at 18-19 & n.10) Although ION now argues that commands should be construed as "instructions" rather than "signals," it is unclear what distinction ION seeks to read into the claims. (IRB at 18-19) Notably, ION's extrinsic evidence uses the terms interchangeably. (*E.g.*, IRB at Ex. G ("command: . . . (1) . . . an instruction . . . (2) One of a set of several signals . . . (5) A pulse, signal, or set of signals . . . (9) . . . an instruction . . . (10) a control signal")) To moot any dispute, WesternGeco proposes construing "positioning commands" as "signals or instructions to control positioning."

(e) "maintaining a specified array geometry"

Claim	Term	WesternGeco's Proposed Construction	ION's Proposed Construction
1, 14, 20, 25, 25, 39, 44, 45, 50	"maintaining a specified array geometry"	controlling the path or shape of the array	maintaining a specified array configuration

As set forth in WesternGeco's Opening Brief, the Zajac patent teaches controlling both the path and shape of the streamer array. (WGOB at 26) ION does not dispute this fact. Rather, ION argues that the term "geometry" should somehow be limited to controlling shapes and not to controlling paths. (IRB at 19-20) ION purportedly bases this argument on: (1) the doctrine of claim differentiation; and (2) extrinsic evidence. Neither supports ION's position.

First, claim differentiation is inapposite because ION fails to identify two claims whose scope would be identical under WesternGeco's proposed construction. *Andersen Corp. v. Fiber Composites, Inc.*, 474 F.3d 1361, 1370 (Fed. Cir. 2007). Second, the extrinsic testimony that ION cites confirms that path and shape "are tightly connected." (IRB Ex. A at 111:14-16) Both are related to the goals of the patent, as set forth in the specification. (WGOB at 26) Therefore, both are properly included within the scope of the claims. *Phillips*, 415 F.3d at 1316. ION's proposed construction of "configuration," however, would contravene the purpose of claim construction because "configuration" is used in the patent in contexts unrelated to array geometry. *See* WGOB at 26; Ex. 5 at 1:64-67, 2:61-66; *Chimie v. PPG Indus.*, 402 F.3d 1371, 1377 (Fed. Cir. 2005) ("Courts construe claim terms in order to assign a fixed, unambiguous, legally operative meaning to the claim."). ION fails to address this point. (IRB at 19-20)

(f) "a streamer behavior prediction processor which predicts array behavior"

ION's Response Brief concedes that WesternGeco's proposed construction — "a processor that predicts the position of streamers in an array" — is proper. (IRB at 20)

(g) "environmental factors/influences/measurements"

Claim	Term	WesternGeco's Proposed Construction	ION's Proposed Construction	ION's Amended Proposed Construction
2, 5, 14, 23, 25, 27, 30, 39, 48, 50	"environmental factors"; "environmental influences"; "environmental measurements"	external conditions (*e.g.*, wind speed and direction, tidal currents velocity and direction, local currents velocity and direction, wave height and direction,	(for environmental factors/influences) environmental data comprising wind speed and direction; tidal currents velocity and direction; ocean bottom depth/angle; local current velocity and direction; wave height and	(for environmental factors/influences) environmental data including but not limited to wind speed and direction; tidal currents velocity and direction; ocean bottom depth/angle; local current velocity and direction; wave

		water temperature, salinity, ocean bottom depth/angle, etc.)	direction; ocean bottom depth/angle; and water temperature and salinity (for environmental measurements) sensed environmental data	height and direction; ocean bottom depth/angle; and water temperature and salinity (for environmental measurements) sensed environmental data

ION now concedes that the examples of environmental factors, influences, and measurements disclosed in the specification are illustrative rather than exhaustive. (IRB at 20 & n.12) However, ION's proposed construction of "environmental factors/influences" as "environmental data" does not add any clarity to the scope of the claim. It therefore does not fulfill the purpose of claim construction, and is properly rejected. *Chimie*, 402 F.3d at 1377.

(h) "maneuverability influences/factor(s)"

Claim	Term	WesternGeco's Proposed Construction	ION's Proposed Construction
6, 16, 24, 25, 31, 41, 49, 50	"maneuverability influences"; "maneuverability factor(s)"	conditions that affect maneuverability (*e.g.*, cable diameter, array type, deployment configuration, vessel type, device type, etc.)	influences resulting from the physical composition of the seismic streamer array tracking and positioning system, such as vessel type, cable diameter, array type deployed configuration device type, etc.

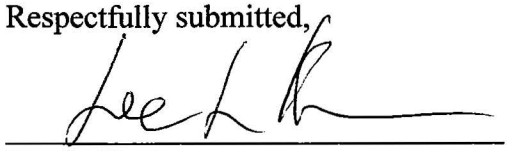
As WesternGeco noted in its opening brief, the parties agree on the illustrative maneuverability influences/factors disclosed in the specification, and the only dispute is how to characterize this class. (WGOB at 28) WesternGeco's proposed construction is based on the ordinary meaning of the claim language — maneuverability influences/factors are "conditions that affect maneuverability." ION, however, attempts to limit this limitation narrower than its plain language to "influences resulting from ***the physical composition*** of the seismic streamer array . . ." ION's sole support for this proposed construction is that it purportedly is based on the preferred embodiments. (IRB at 21) This is reading preferred embodiments into the claims, and is improper under *Phillips*. 415 F.3d at 1323.

CONCLUSION

For all of the reasons set forth above as well as in its Opening and Response Briefs, WesternGeco respectfully requests that the Court construe the disputed limitations in accordance with WesternGeco's proposed constructions.

Dated: March 12, 2010

Respectfully submitted,



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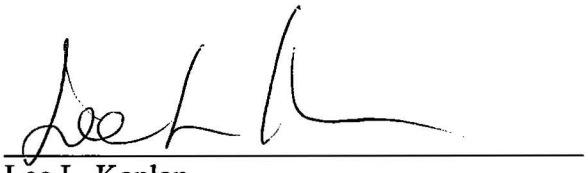
CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the above and foregoing instrument has been forwarded to all counsel of record pursuant to Federal Rules of Civil Procedure on this the 12th day of March, 2010.



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