

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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PETROLEUM GEO-SERVICES INC.,  
and  
ION GEOPHYSICAL CORPORATION  
AND ION INTERNATIONAL S.A.R.L.,  
Petitioner,

v.

WESTERNGECO LLC,  
Patent Owner.

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Case IPR2014-00688<sup>1</sup>  
Patent 7,080,607 B2

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Before BRYAN F. MOORE, SCOTT A. DANIELS, and  
BEVERLY M. BUNTING, *Administrative Patent Judges*.

DANIELS, *Administrative Patent Judge*.

FINAL WRITTEN DECISION  
*35 U.S.C. § 318(a) and 37 C.F.R. § 42.73*

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<sup>1</sup> Case IPR2015-00567 has been joined with this proceeding.

## I. INTRODUCTION

### A. Background

Petroleum Geo-Services (“Petitioner,” or “PGS”) filed a Petition to institute an *inter partes* review of claims 1 and 15 of U.S. Patent No. 7,080,607 B2 (“the ’607 patent”).<sup>2</sup> Paper 1 (“PGS Pet.”). WesternGeco LLC (“Patent Owner”) timely filed a Preliminary Response. Paper 26 (“First Prelim. Resp.”). We instituted trial in *Petroleum Geo-Services, Inc., v. WesternGeco L.L.C.*, Case IPR2014-00688, (the “PGS IPR”), for claims 1 and 15 of the ’607 patent on certain grounds of unpatentability alleged in the Petition. Paper 33 (“Decision to Institute” or “Inst. Dec.”). Patent Owner, in due course, filed a Response. Paper 44 (“Response”). Petitioner subsequently filed a Reply. Paper 78 (Reply).

In a separate proceeding, *ION Geophysical Corporation and ION International S.A.R.L., v. WesternGeco L.L.C.*, Case IPR2015-00567 (PTAB Jan. 14, 2015) (the “ION IPR”), ION Geophysical Corporation and ION International S.A.R.L. (“ION”) also filed a Petition to institute an *inter partes* review of claims 1 and 15 of the ’607 patent. Paper 3 (“ION Pet.”). With their Petition, ION also filed a Motion for Joinder, Paper 4 (“Mot.”), seeking to join the ION IPR with the PGS IPR. Mot. 2. Patent Owner filed an Opposition to ION’s Motion for Joinder. Paper 10 (“Opp.”). We instituted trial in the ION IPR and granted ION’s Motion for Joinder. Paper

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<sup>2</sup> The Petition was initially accorded the filing date of April 23, 2014. Paper 6. Following submission of an updated Mandatory Notice (Paper 18) on August 5, 2014, including additional real-parties-in-interest, the filing date of the Petition was changed to August 5, 2014 and we exercised our discretion under 37 C.F.R. § 42.5(c) to set a new deadline for Patent Owner’s preliminary response. Paper 22, 6.

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14 (“ION Decision to Institute” or “ION Inst. Dec.”). We ordered ION not to file papers, engage in discovery, or participate in any deposition or oral hearing in IPR2014-00688 without obtaining authorization. ION was, however, permitted to appear in IPR2014-00688 so that it could receive notification of filings and attend depositions and the oral hearing. Patent Owner subsequently filed a Preliminary Response to ION’s Petition. Paper 70 (“ION Prelim. Resp.”).

In addition, Petitioner filed a Motion to Exclude. Paper 85. Patent Owner filed an Opposition to Petitioner’s Motion to Exclude (Paper 90), and Petitioner filed a Reply. Paper 94. Also, Petitioner filed three Motions to Seal (Papers 81, 87, and 97), and Patent Owner filed a Motion to Seal. Paper 91.

An oral hearing was held on July 30, 2015. A transcript of the hearing is included in the record. Paper 100 (“Tr.”).

The Board has jurisdiction under 35 U.S.C. § 6(c). This Final Written Decision is entered pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons that follow, we determine that Petitioner has proven, by a preponderance of the evidence, that claims 1 and 15 of the ’607 patent are unpatentable.

#### *B. Additional Proceedings*

Lawsuits involving the ’607 patent presently asserted against Petitioner include *WesternGeco LLC v. Petroleum Geo-Services, Inc.*, 4:13-cv-02725 (the “PGS lawsuit”) in the Southern District of Texas and *WesternGeco LLC v. ION Geophysical Corp.*, 4:09-cv- 01827 (the “ION lawsuit”) also in the Southern District of Texas. ION Pet. 8.

The ’607 patent is related to the patents involved in IPR2014-00687 and IPR2014-00689.

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*C. The '607 Patent*

The '607 patent (Ex. 1001), titled “Seismic Data Acquisition Equipment Control System,” generally relates to a method and apparatus for improving marine seismic survey techniques to more effectively control the movement and positioning of marine seismic streamers towed in an array behind a boat. Ex. 1001, 1:16–24. As illustrated in Figure 1 of the '607 patent reproduced below, labeled “Prior Art,” a seismic source, for example air gun 14, is towed by boat 10 producing acoustic signals, which are reflected off the earth below. *Id.* The reflected signals are received by hydrophones (no reference number) attached to streamers 12, and the signals “digitized and processed to build up a representation of the subsurface geology.” *Id.* at 1:31–33.

Fig.1.  
Prior Art

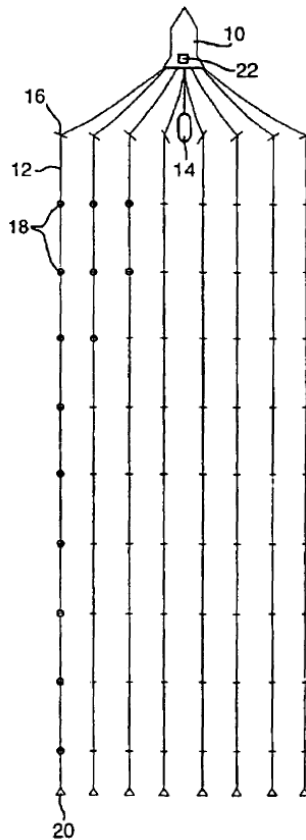


Figure 1, above, depicts an array of seismic streamers 12 towed behind vessel 10.

In order to obtain accurate survey data, it is necessary to control the positioning of the streamers, both vertically in the water column, as well as horizontally against ocean currents and forces which can cause the normally linear streamers to bend and undulate and, in some cases, become entangled with one another. *Id.* at 1:42–2:16. As illustrated in Figure 1, above, each streamer is maintained in a generally linear arrangement behind the boat by deflector 16 which horizontally positions the end of each streamer nearest the boat. *Id.* at 3:37–46. Drag buoy 20 at the end of each streamer farthest

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