

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

PETROLEUM GEO-SERVICES INC.,  
Petitioner,

v.

WESTERNGECO LLC,  
Patent Owner.

---

Case IPR2014-00689  
Patent 7,293,520 B2

---

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

DANIELS, *Administrative Patent Judge*.

DECISION

Decision on Institution of *Inter Partes* Review  
37 C.F.R. § 42.108

## I. INTRODUCTION

### A. Background

Petroleum Geo-Services (“Petitioner”) filed a Petition to institute an *inter partes* review of claims 1, 2, 6, 18, 19, and 23 of U.S. Patent No. 7,293,520 B2 (“the ’520 patent” Ex. 1001).<sup>1</sup> Paper 2 (“Pet.”). WesternGeco LLC, (“Patent Owner”) timely filed a Preliminary Response. Paper 26 (“Prelim. Resp.”).

We have authority to determine whether to institute an *inter partes* review under 35 U.S.C. § 314; 37 C.F.R. § 42.4(a). Upon consideration of the Petition and the Preliminary Response, we determine that Petitioner has established a reasonable likelihood of prevailing on the unpatentability of claims 1, 2, 18, and 19 challenged in the Petition. Accordingly, we institute an *inter partes* review for claims 1, 2, 18, and 19 of the ’520 patent.

### B. Additional Proceedings

Petitioner states that related lawsuits involving the ’520 patent presently asserted against Petitioner are *WesternGeco LLC v. Petroleum Geo-Services, Inc. et al.*, 4:13-cv-03037, (the “PGS lawsuit”) in the Southern District of Texas and *WesternGeco LLC v. ION Geophysical Corp. et al.*, 4:09-cv-01827 (the “ION lawsuit”), also in the Southern District of Texas. Pet. 2.

Petitioner also has concurrently filed three additional petitions challenging the patentability of: (1) claims 1 and 15 of U.S. Patent No.

---

<sup>1</sup> The Petition was initially accorded the filing date of April 23, 2014. Paper 6. Following submission of an updated Mandatory Notice (Paper 16) on August 1, 2014, including additional real-parties-in-interest, we exercised our discretion under 37 C.F.R. § 42.5(c), and changed the accorded filing date of the Petition to August 5, 2014. Paper 22.

IPR2014-00689  
Patent 7,293,520 B2

7,080,607 B2 (“the ’607 patent”)(IPR2014-00688); (2) claims 1 and 15 of U.S. Patent No. 7,162,967 B2 (“the ’967 patent”) (IPR2014-00687), and; (3) claim 14 of U.S. Patent No. 6,691,038 B2 (“the ’038 patent”) (IPR2014-00678).<sup>2</sup> , .

### *C. The ’520 Patent*

The ’520 patent (Ex. 1001), titled “Control System for Positioning of a Marine Seismic Streamers,” generally relates to a method and apparatus for improving marine seismic survey techniques by more effectively controlling the movement and positioning of marine seismic streamers towed in an array behind a boat. Ex. 1001, col. 1, ll. 24–36. As illustrated in Figure 1 of the ’520 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 36–41.

---

<sup>2</sup> The ’520, ’607, and ’967 patents each issued as continuations of application No. 09/787,723, filed July 2, 2001, now U.S. Patent No. 6,932,017, which was, in turn, a 35 U.S.C. § 371 national stage filing from Patent Cooperation Treaty application number PCT/IB99/01590, filed September 28, 1999, claiming foreign priority under 35 U.S.C. § 119 from Great Britain patent application number 9821277.3, filed October 1, 1998. *See* Ex. 1001, col. 1, ll. 7–16.

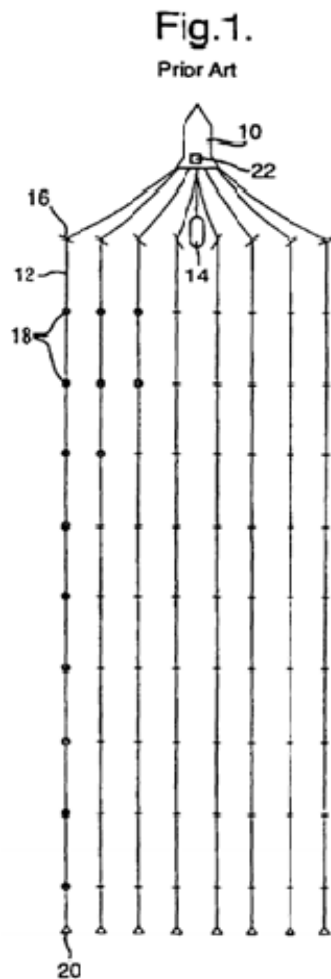


Figure 1 depicts an array of seismic streamers 12 towed behind the vessel.

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 col. 1, l. 42–col. 2, l. 25. As illustrated in Figure 1, 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 vessel. *Id.* at 43–45. Drag buoy 20 at the end of each streamer farthest from the vessel creates tension along the streamer to maintain the linear arrangement.

Additionally, to control the position and linear shape of the streamer, a plurality of streamer positioning devices, called “birds” 18, are attached along the length of each streamer. The birds are horizontally, and vertically steerable and control the shape and position of the streamer in both vertical (depth) and horizontal directions. *Id.* at col. 3, ll. 53–61. The birds’s job is usually to maintain the streamers in their linear and parallel arrangement, because, when the streamers are horizontally out of position, the efficiency of the seismic data collection is compromised. *Id.* at col. 2, ll. 14–17. The most important task of the birds, however, is to keep the streamers from tangling. *Id.* at col. 4, ll. 4–5.

The invention described in the ‘520 patent relies on global control system 22 located on, or near the vessel, to control the birds on each streamer and maintain the streamers in their particular linear and parallel arrangement. *Id.* at col. 3, ll. 62–66. The control system is provided with a model (desired) position representation of each streamer in the towed streamer array, and also receives (actual) position information from each of the birds. *Id.* at col. 4, ll. 21–23. The control system uses the desired and actual position of the birds to “regularly calculate updated desired vertical and horizontal forces the birds should impart on the seismic streamers 12 to move them from their actual positions to their desired positions.” *Id.* at col. 4, ll. 37–40.

The Specification explains that the control system has two primary modes, a feather angle mode, and a turn control mode. *Id.* at col. 10, ll. 27–

# Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

## Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

## Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

## Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

## API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

## LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

## FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

## E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.