

435220US

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
U.S. Patent No. 7,293,520

PATENT OWNER RESPONSE

Pursuant to 37 C.F.R. § 42.120, Patent Owner, WesternGeco L.L.C (“WesternGeco” or “Patent Owner”), submits this Response to the Petition for *Inter Partes* Review (“Petition”) of U.S. Patent No. 7,293,520 (the “’520 patent”) filed by Petitioner, Petroleum Geo-Services, Inc. (“PGS” or “Petitioner”).

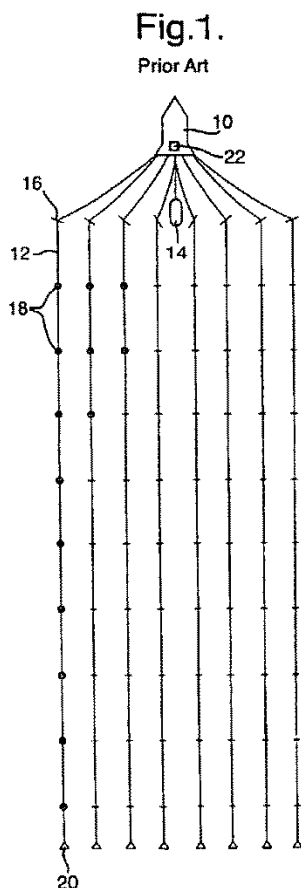
TABLE OF CONTENTS

I.	THE '520 PATENT CLAIMS PRECISION CONTROL OF STEERABLE SEISMIC ARRAYS	1
II.	CLAIM CONSTRUCTION	6
	A. Feather Angle Mode	7
	B. Streamer Separation Mode	9
III.	PRIOR ART.....	10
	A. Workman	10
	B. Hedberg	15
IV.	THE '520 PATENT IS NOT ANTICIPATED OR OBVIOUS.....	19
	A. Claim 1 and 18 Are Not Anticipated By Workman.....	19
	i. Workman does not disclose each and every limitation of claims 1 or 18.....	19
	ii. Workman Does Not Disclose a Control System Configured to Operate in One or More Control Modes as Recited in Claims 1 and 18	19
	iii. Workman Does Not Disclose a Control Mode Selected from a Feather Angle Mode, a Turn Control Mode, and a Streamer Separation Mode.....	20
	B. Workman Does Not Render Claims 1, 2, 18 and 19 Obvious	23
	i. Workman Does Not Render Obvious the Streamer Separation Mode	25
	ii. Workman Does Not Render Obvious the Feather Angle Mode	28
	C. Claims 1, 2, 18 and 19 Are Not Anticipated by Hedberg	34
	i. Hedberg Does Not Disclose The Claimed Invention	34

ii.	Hedberg Lacks a Streamer Separation Mode	35
iii.	Hedberg Lacks a Feather Angle Mode	38
D.	Claims 1, 2, 18 and 19 Are Not Obvious In View Of Hedberg.	41
i.	Hedberg Does Not Render Obvious the Streamer Separation Mode	41
ii.	Hedberg Does Not Render Obvious the Feather Angle Mode	44
V.	SECONDARY CONSIDERATIONS OF NONOBVIOUSNESS	47
VI.	THE PETITION IS TIME-BARRED UNDER 35 U.S.C. § 315(b)	49
A.	ION is an Unnamed RPI.....	49
i.	[REDACTED]	49
ii.	ION’s Involvement with Petitioner.....	51
iii.	ION is an RPI Under the Guidelines	53
iv.	Additional Discovery was Prejudicially Denied.....	56
B.	Multi Klient Invest AS is an RPI	57
C.	Service	58
VII.	CONCLUSION.....	60

I. THE '520 PATENT CLAIMS PRECISION CONTROL OF STEERABLE SEISMIC ARRAYS

The '520 patent covers methods and apparatus for laterally steering a



plurality of streamer positioning devices along an array of streamers using one or more of three different control modes. Although the need for control systems for streamer steering was known for years, no one in the industry had succeeded in developing the capability of streamer steering along the length of the streamer prior to the '520 patent. This was due to the challenges in constructing a functioning system capable of controlling hundreds of positioning devices at once, as well as designing the devices themselves.

Early streamer positioning involved rudimentary devices such as deflectors and tail buoys. (Ex. 1001, 3:43-45; Fig. 1 elements (16) and (20), respectively)¹ Deflectors were attached to the front end of the streamer

¹ Although Figure 1 of the '520 patent is captioned as “prior art,” one of ordinary skill would recognize that much of that figure was in fact not prior art, but instead constituted inventive contributions to the state of the art, such as the global control system, its functionality (e.g., predictive analysis, control modes,

and used to horizontally spread the end of the streamer nearest the seismic survey vessel. (Ex. 1001, 3:45-47.) The tail buoy created drag on the end of the streamer farthest from the seismic survey vessel. (Ex. 1001, 3:47-49.) The tension created on the seismic streamer because of the deflector and tail buoy resulted in a roughly linear shape of the streamer. (Ex. 1001, 3:49-52.) Tail buoys floated at the surface and could rely on GPS to determine their positions. Deflectors attached to the front of the array and created fixed spacing through tension at front of the system. No steering was provided for the miles of length along the streamer.

Streamer positioning devices are generally spaced every 200 to 400 meters along the length of a streamer. (Ex. 1001, 3:56-58.) For a modest streamer array, this means hundreds of separate streamer positioning devices are deployed on a given array. Simultaneously controlling this multitude of independent positioning devices is no easy feat. While it is easy to set a target depth and little risk exists if that depth is overshot, lateral steering requires considerations of the dynamic movement of neighboring streamers and obstructions along miles of cable deployed in the ever-changing open-water environment of the deep seas. Unless

streamer positioning device control, etc.), and the distributed processing control architecture. (Ex. 2042, ¶ 67.)

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.