

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

PETROLEUM GEO-SERVICES INC.

Petitioner

v.

WESTERNGECO LLC

Patent Owner

CASE IPR: Unassigned

Patent 7,162,520 B2

DECLARATION OF DR. BRIAN EVANS, PhD.

TABLE OF CONTENTS

I. INTRODUCTION.....	1
II. QUALIFICATIONS	2
III. COMPENSATION AND RELATIONSHIP TO THE PARTIES	7
IV. LEGAL STANDARDS.....	8
A. Claim Construction.....	8
B. Anticipation	8
C. Obviousness.....	9
D. Person of Ordinary Skill in the Art.....	9
V. SUMMARY OF OPINION	10
VI. TECHNICAL BACKGROUND.....	11
VII. THE '520 PATENT.....	53
A. Brief Description of the Relevant File History.....	53
B. Relevant Time Frame for Analysis of the '520 Patent.....	54
C. The Specification of the '520 Patent	54
C. Relevant Time Frame for Analysis of the '520 Patent.....	76
D. The Specification of the '520 Patent	76
E. Claims 18 and 1 of the '520 Patent are Anticipated by Workman.....	77
1. Claim 18	78
F. Claims 1, 2, 18 and 19 of the '520 Patent are Obvious over Workman.....	86
1. Streamer Separation Mode.....	87
2. Feather Angle Mode.....	91
3. One or More "Modes".....	94
G. Claims 1, 2, 18 and 19 are Anticipated by Hedberg.....	96
1. Claim 18	97
H. Claims 1, 2, 18 and 19 are Obvious Over Hedberg.....	113
1. Streamer Separation Mode.....	113
2. Feather Angle Mode.....	115

I. Claims 1, 6, 18, and 23 are Obvious Over the '636 PCT in view of the '153 PCT	117
1. “An array of streamers each having a plurality of streamer positioning devices there along”	119
2. A Control System Configured to Use a Turn Control Mode	121
J. Claims 1, 6, 18, and 23 are Obvious Over Dolengowski in view of the '636 PCT	130
VIII. CONCLUSION.....	134

I, Dr. Brian Evans, hereby state the following:

I. INTRODUCTION

1. I have been retained by Petroleum Geo-Services, Inc. (“PGS”) to provide technical assistance related to the filing of a Petition for *Inter Partes Review* of U.S. Patent No. 7,293,520 B2 (“the ’520 Patent”) (Ex. 1001). I am working as a private consultant on this matter and the opinions presented here are my own.

2. I have been asked to prepare a written report, including comments related to whether certain claims of the ’520 Patent are unpatentable because they are anticipated or would have been obvious to one of ordinary skill in view of the prior art. I have reviewed the documents set forth in the attached Appendix of Exhibits and relied on my decades of knowledge and experience in the field of seismic marine surveys (detailed in Section II) in reaching my opinions regarding validity. This report sets forth the bases and reasons for my opinions, including the additional materials and information relied upon in forming those opinions and conclusions.

3. This report is based on information currently available to me. I reserve the right to continue my investigation and analysis, which may include a review of documents and information not yet produced. I further reserve the right to expand or otherwise modify my opinions and conclusions as my investigation and study

continues, and to supplement my opinions and conclusions in response to any additional information that becomes available to me.

II. QUALIFICATIONS

4. I am a Professor of Geophysics in the Department of Petroleum Engineering at Curtin University located in Bentley, Western Australia. I have worked continuously in the field of marine seismic surveying for over 44 years, since the 1970s. I have been involved in the design of dozens of marine seismic surveys, and have been onboard seismic vessels as they were conducting a marine seismic survey over one-hundred times.

5. I authored a textbook devoted to marine seismic surveying and data acquisition, entitled “A Handbook for Seismic Data Acquisition in Exploration.” I began writing the textbook in 1985 for use in my “Seismic Acquisition” class, and continued to update it over the years. It was first published in 1997 by the Society of Exploration Geophysicists (SEG), the premier international organization for seismic professionals and researchers, including marine seismic professionals. At the time of its publication, it was considered the authoritative textbook in the field of seismic data acquisition. Over the past 15 years, it has been used throughout the world in seismic surveying courses and on seismic survey vessels.

6. I obtained my Diploma of Electrical Engineering, the equivalent of a bachelor’s degree, at the J.M. University of Liverpool in the United Kingdom in

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.