

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT2968882

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
RUITING WU	07/30/2014
OLGA KRESSE	06/16/2014
XIAOWEI WENG	06/25/2014
CHARLES-EDOUARD COHEN	06/16/2014
HONGREN GU	06/17/2014
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	SCHLUMBERGER TECHNOLOGY CORPORATION
<b>Street Address:</b>	300 SCHLUMBERGER DRIVE
<b>City:</b>	SUGAR LAND
<b>State/Country:</b>	TEXAS
<b>Postal Code:</b>	77478
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	14356369
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i>	
<b>Email:</b>	kdumas-scarber@slb.com
<b>Correspondent Name:</b>	KRISTINE DUMAS-SCARBER
<b>Address Line 1:</b>	10001 RICHMOND AVENUE
<b>Address Line 2:</b>	ROOM 4720
<b>Address Line 4:</b>	HOUSTON, TEXAS 77042
<b>ATTORNEY DOCKET NUMBER:</b>	IS11.0915-US-PCT
<b>NAME OF SUBMITTER:</b>	KRISTINE DUMAS-SCARBER
<b>SIGNATURE:</b>	/KRISTINE DUMAS-SCARBER/
<b>DATE SIGNED:</b>	08/05/2014
<b>Total Attachments: 8</b>	
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### Assignment

WHEREAS, the undersigned inventors hereinafter referred to as the "Inventors" each said Inventor's address being listed below:

**Ruiting Wu**, a citizen of China, residing at 810 Lakespur Drive, Sugar Land, Texas 77479, USA;

**Olga Kresse**, a citizen of the United States of America, residing at 15270 Voss Road, # 937, Sugar Land, TX, 77478, USA;

**Xiaowei Weng**, a citizen of the United States of America, residing at 10019 Terrance Springs Lane, Katy, TX 77494, USA;

**Charles-Edouard Cohen**, a citizen of France, residing at Rio de Janeiro, BR;

and

**Hongren Gu**, a citizen of the United States of America, residing at 16718 Colony Terrace Drive, Sugar Land, TX 77479, USA;

Has/have invented certain new and useful improvements in

#### MODELING OF INTERACTION OF HYDRAULIC FRACTURES IN COMPLEX FRACTURE NETWORKS

as described and set forth in an application identified as International Application No. PCT/US2012/063340 (Docket No. IS11.0915-WO-PCT) filed November 2, 2012 and for Letters Patent of the United States of America, filed with the United States Patent and Trademark Office on May 5, 2014, Serial No. 14/356,369, (Docket No. IS11.0915-US-PCT). **This assignment is effective as of November 2, 2012.**

AND WHEREAS, the "**COMPANIES**", listed in **Schedule A**, are desirous of acquiring or confirming their acquisition of the entire right, title and interest in and to said invention, inventions or improvements, and in and to said application, and in and to any and all patents, both of the United States and of all foreign countries, that may be obtained therefore **as outlined in Schedule A**;

NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN, BE IT KNOWN, that the undersigned Inventors, for good and valuable considerations, the receipt and sufficiency of which hereby acknowledge, have sold, assigned, transferred and conveyed, and by this assignment do sell, assign, transfer and convey, unto said COMPANIES, their successors and assigns, the entire right, title and interest throughout the world, in and to the above-described invention, inventions or improvements described or set forth in said application, in any form or embodiment thereof, and in and to said application, and in and to any applications filed in any foreign country based thereon, including the right to file foreign applications under the

provisions of any convention or treaty; and in and to any confirmation, divisional, continuation, continuation-in-part, or substitute application which may be filed on said invention, inventions or improvements in the United States or in any foreign country; and in and to any and all patents, certificates, utility models, reissues, extensions, additions or confirmations thereof which may be granted in the United States or in any foreign country upon said invention, inventions or improvements,

TO HAVE AND TO HOLD the same to the full end of the term or terms for which any and all such United States and foreign patents and grants may be issued on said invention, inventions or improvements.

AND said Inventors do hereby authorize and request the issuing authority to issue any and all of said United States and foreign patents on said application or applications to said **COMPANIES**, their successors and assigns, as the assignee of the entire right, title and interest in and to the same, for the sole use and benefit of said **COMPANIES**, their successors and assigns.

AND said Inventors do hereby covenant and warrant that said Inventors have full right to convey the entire right, title and interest herein assigned free and clear of all licenses, encumbrances and liens whatsoever, and that no said Inventors has executed and will execute any instruments in conflict herewith.

AND said Inventors, for the conditions aforesaid, do hereby covenant and agree to and with the said **COMPANIES**, their successors and assigns, that each Inventor, his or her executors, administrators, or other personal representatives, shall and will do all lawful acts and things, make all rightful oaths, and make, execute and deliver any and all other instruments in writing, and any and all further applications, papers, powers, affidavits, assignments, disclaimers and other documents, which in the opinion of counsel for said **COMPANIES**, their successors and assigns, may be required or necessary in this or in any foreign country more effectually to secure to and vest in said **COMPANIES**, their successors and assigns, the entire right, title and interest in and to said invention, inventions or improvements, application or applications, patents, rights, titles, benefits, privileges, and advantages hereby sold, assigned, confirmed, transferred and conveyed.

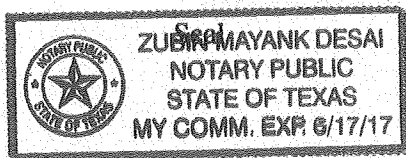
IN WITNESS WHEREOF I, **Ruiting Wu**, have hereunto set my hand and seal this 30<sup>th</sup>  
day of July, 2014.

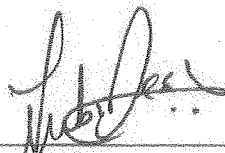
  
\_\_\_\_\_  
**Ruiting Wu**

STATE OF TEXAS

COUNTY OF Fort Bend

BEFORE ME this 30<sup>th</sup> day of July, 2014, personally appeared **Ruiting Wu**, to  
me known to be the person who is described in and who executed the foregoing assignment  
instrument and acknowledged to me that he executed the same of his own free will for the  
purpose therein expressed.



  
\_\_\_\_\_  
Notary Public

IN WITNESS WHEREOF I, **Olga Kresse**, have hereunto set my hand and seal this 16  
day of June, 2014.

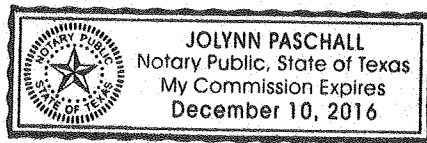
O. Kresse  
**Olga Kresse**

STATE OF TEXAS

COUNTY OF FORT BEND

BEFORE ME this 16 day of June, 2014, personally appeared **Olga Kresse**, to  
me known to be the person who is described in and who executed the foregoing assignment  
instrument and acknowledged to me that he executed the same of his own free will for the  
purpose therein expressed.

Seal



Jolynn Paschall  
Notary Public

IN WITNESS WHEREOF I, **Xiaowei Weng**, have hereunto set my hand and seal this 25<sup>th</sup> day of June, 2014.

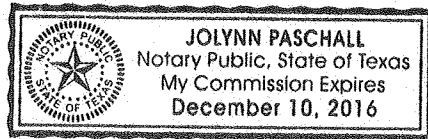
Xiaowei Weng  
**Xiaowei Weng**

STATE OF TEXAS

COUNTY OF FORT BEND

BEFORE ME this 25 day of June, 2014, personally appeared **Xiaowei Weng**, to me known to be the person who is described in and who executed the foregoing assignment instrument and acknowledged to me that he executed the same of his own free will for the purpose therein expressed.

Seal



Jolynn Paschall  
Notary Public

IN WITNESS WHEREOF I, Charles-Edouard Cohen, have hereunto set my hand and seal this  
16 day of June, 2014.

  
Charles-Edouard Cohen

BE IT KNOWN that Charles-Edouard Cohen, is to me known to be the individual described in the foregoing assignment, that on this 16 day of June, 2014, I was personally present and did see him sign and execute the foregoing assignment; and, that he did acknowledge to me that he executed the same as his free act and deed for the uses and purposes therein set forth.

  
Witness

ALEXANDRE PEPIN

Rua da Passagem, 75

222 90-030

RIO DE JANEIRO

Post Office Address

  
Witness

RICHARD BOOTH

RUA JOAQUIM NABUCO, 201 APT 202

IPANEMA

RIO DE JANEIRO

Post Office Address



IN WITNESS WHEREOF I, **Hongren Gu**, have hereunto set my hand and seal this 17<sup>th</sup>  
day of June, 2014.

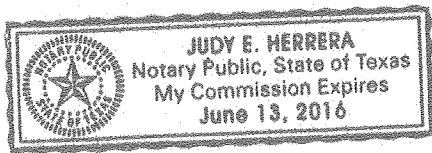
Hongren Gu  
**Hongren Gu**

STATE OF TEXAS

COUNTY OF FORT BEND

BEFORE ME this 17<sup>th</sup> day of June, 2014, personally appeared **Hongren Gu**, to  
me known to be the person who is described in and who executed the foregoing assignment  
instrument and acknowledged to me that he executed the same of his own free will for the  
purpose therein expressed.

Seal



Judy E. Herrera  
Notary Public

**Schedule A**  
**“COMPANIES”**

**SCHLUMBERGER TECHNOLOGY CORPORATION**

Corporation of: United States of America

Located at: 300 Schlumberger Drive, Sugar Land, Texas 77478 U.S.A.

Assignee for applications in: United States of America

**SCHLUMBERGER CANADA LIMITED**

Corporation of: Canada

Located at: 125 – 9 Avenue SE, Calgary, Alberta T2G 0P6

Assignee for applications in: Canada

**SERVICES PETROLIERS SCHLUMBERGER**

Corporation of: France

Located at: 42 rue Saint Dominique, 75007 Paris, France

Assignee for applications in: France

**SCHLUMBERGER HOLDINGS LIMITED**

Corporation of: British Virgin Islands

Located at: P.O. Box 71, Craigmuir Chambers, Road Town, 1110 Tortola, British Virgin Islands

Assignee for applications in: Japan, The Netherlands, United Kingdom

**PRAD RESEARCH AND DEVELOPMENT LIMITED**

Corporation of: British Virgin Islands

Located at: P.O. Box 71, Craigmuir Chambers, Road Town, 1110 Tortola, British Virgin Islands

Assignee for applications in: Angola, Bahrain, Bangladesh, Benin, Cambodia, Cameroon, Chad, China, Congo, Gabon, Ghana, Guinea-Bissau, India, Ivory Coast, Jordan, Libya, Mauritania, Morocco, Mozambique, Myanmar, Namibia, Nigeria, Philippines, Senegal, Sudan, Syria, Taiwan, Togo, UAE, Vietnam, Zaire.

**SCHLUMBERGER TECHNOLOGY B.V.**

Corporation of: the Netherlands

Located at: Parkstraat 83-89, 2514 JG The Hague, The Netherlands

Assignee for applications in: GCC and all other countries not otherwise listed.