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PATENTS ONLY

Atty Ref/Docket No.: 1880.359WO1

Patent and Trademark Office

To the Director of the U.S. Patent and Trademark Office: Please record the attached original documents or copy thereof.

1. Name of conveying party(ies):
Yumei Tang, Wenshan Yu, Michael S. Bittar
Additional name(s) of conveying party(ies) attached?
 Yes No

2. Name and address of receiving party(ies):
Name: Halliburton Energy Services, Inc.
Street Address: 10200 Bellaire Blvd
City: Houston State: TX Zip: 77072
Country: United States of America

3. Nature of conveyance:
 Assignment Merger
 Security Agreement Change of Name
 Other

Additional name(s) & address(es) attached? Yes No

Execution Date: October 3, 2011, October 3, 2011, October 8, 2011

4. Application number(s) or patent number(s):

If this document is being filed together with a new application, the execution date of the application is:

A. Patent Application No.(s)
Serial No. PCT/US2011/053486, filed September 27, 2011

B. Patent No.(s)

Additional numbers attached? Yes No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: David R. Cochran
Address:
Schwegman, Lundberg & Woessner, P.A.
P.O. Box 2938
Minneapolis, MN 55402--0938

6. Total number of applications and patents involved: 1

7. Total fee (37 CFR 3.41): \$ 40.00

Enclosed
 Authorized to be charged to deposit account 19-0743

8. Please charge any additional fees or credit any over payments to our Deposit Account No.: 19-0743

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9. Statement and signature.
To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

David R. Cochran/Reg. No. 46.632
Name of Person Signing

David R. Cochran
Signature

10 October 2011
Date

Total number of pages including cover sheet: 6

Mail documents to be recorded with required cover sheet information to:

Commissioner of Patents and Trademarks
Mail Stop Assignment Recordation Services
P.O. Box 1450
Alexandria, VA 22313-1450

CH \$40.00 190743 US1153486

Attorney Docket No. 1880.359WO1
Client Ref. No. 2010-IP-040625 PCT/E-Billing 2010-IPRO-040625

ASSIGNMENT

WHEREAS, We, Yumei Tang, residing at 11714 Teal Hollow Lane, Tomball, TX 77377, and Wenshan Yu, residing at 9500 West Road Apt. 1710, Houston, TX 77064, and Michael S. Bittar, residing at 8711 Wheatland Drive, Houston, TX 77064, made certain new and useful inventions and improvements which are described in an application for PCT Letters Patent on September 27, 2011, which application was assigned PCT patent application serial number PCT/US2011/053486, and is entitled SYSTEMS AND METHODS OF ROBUST DETERMINATION OF BOUNDARIES:

FOR GOOD AND VALUABLE CONSIDERATION, the receipt, sufficiency and adequacy of which are hereby acknowledged, the undersigned do hereby:

SELL, ASSIGN AND TRANSFER to Halliburton Energy Services, Inc. (the "Assignee"), a corporation of the State of Delaware, having a place of business at 10200 Bellaire Blvd, Houston, TX 77072, the entire right, title and interest for the United States and all foreign countries in and to: any and all inventions and improvements which are disclosed in the identified application for PCT Letters Patent, and which may be further identified below; such application and all divisional, continuing, substitute, renewal, reissue and all other applications for patent which have been or shall be filed in the United States (including all provisional and non-provisional applications), and in all foreign countries on any of such inventions and/or improvements (including any applications for utility models); all original and reissued patents which have been or shall be issued in the United States and all foreign countries on such inventions and/or improvements; and specifically including the right to file foreign applications under the provisions of any convention or treaty and to claim priority based on the identified application;

AUTHORIZE AND REQUEST that any attorney associated with U.S. PTO Customer No. 21186 may (directly or through his/her designee) delete, insert, or alter any information identifying this application, or any related application, below, after execution of this Assignment;

Additional Application Information

No Provisional claim for priority is being made at this time.

No U.S. Non-Provisional claim for priority is being made at this time.

No International or foreign claim for priority is being made at this time.

AUTHORIZE AND REQUEST the issuing authority to issue any and all United States and foreign patents granted on such improvements to the Assignee;

ASSIGNMENT

Docket No: 1880.359WO1

Client Ref. No. 2010-JP-040625 PCT/E-Billing 2010-IPRO-040625

Assignors: Yumei Tang et al.

Serial Number: PCT/US2011/053486

Title: SYSTEMS AND METHODS OF ROBUST DETERMINATION OF BOUNDARIES

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WARRANT AND COVENANT that no assignment, grant, mortgage, license or other agreement affecting the rights and/or property herein conveyed has been or will be made to others by the undersigned, and that the full right to convey the same as herein expressed is possessed by the undersigned;

COVENANT, that when requested and without compensation, but at the expense of the Assignee, in order to carry out in good faith the intent and purpose of this Assignment, the undersigned will (1) execute all provisional, non-provisional, divisional, continuing, substitute, renewal, reissue, and all other patent applications on any and all such improvements; (2) execute all rightful oaths, declarations, assignments, powers of attorney and other papers; (3) communicate to the Assignee all facts known to the undersigned relating to such improvements and the history thereof; (4) cooperate with the Assignee in any interference, reexamination, reissue, opposition, dispute, or litigation involving any of the applications or patents for such improvements; and (5) take such further actions as the Assignee shall reasonably consider necessary or desirable for vesting title to such improvements in the Assignee, or for securing, maintaining and enforcing proper patent protection for such improvements;

THIS AGREEMENT IS TO BE BINDING on the heirs, assigns, representatives and successors of the undersigned, and is to extend to the benefit of the successors, assigns and nominees of the Assignee.

AGREED as of the date of my signature below:

ASSIGNMENT

Client Ref. No. 2010-IP-040625 PCT/E-Billing 2010-IPRO-040625

Assignors: Yumei Tang et al.

Title: SYSTEMS AND METHODS OF ROBUST DETERMINATION OF BOUNDARIES

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Docket No: 1880.359WO1

Serial Number: PCT/US2011/053486

IN TESTIMONY WHEREOF, I have hereunto set my hand this 3rd day of October, 2011.

Yumei Tang

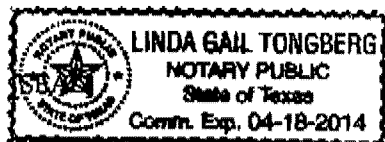
Yumei Tang

STATE OF Texas)

)ss

COUNTY OF Harris)

On this 3rd day of October, 2011 before me personally appeared Yumei Tang, to me known and known to me to be the person described in and who executed the foregoing instrument, and he/she duly acknowledged to me that he/she executed the same for the uses and purposes therein set forth.



Linda Gail Tongberg
Notary Public

ASSIGNMENT

Client Ref. No. 2010-IP-040625 PCT/E-Billing 2010-IPRO-040625

Assignors: Yumei Tang et al.

Title: SYSTEMS AND METHODS OF ROBUST DETERMINATION OF BOUNDARIES

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Docket No: 1880.359WO1

Serial Number: PCT/US2011/053486

IN TESTIMONY WHEREOF, I have hereunto set my hand this 3rd day of

October, 2011.



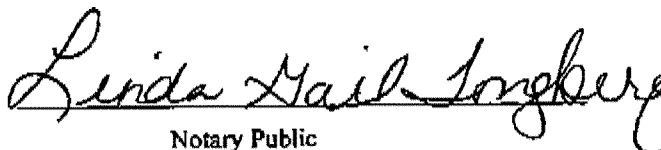
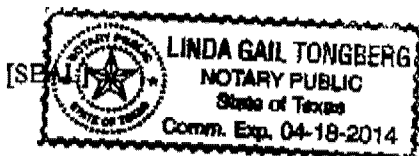
Wenshan Yu

STATE OF Texas)

)ss

COUNTY OF Harris)

On this 3rd day of October, 2011 before me personally appeared Wenshan Yu, to me known and known to me to be the person described in and who executed the foregoing instrument, and he/she duly acknowledged to me that he/she executed the same for the uses and purposes therein set forth.



Notary Public

ASSIGNMENT

Client Ref. No. 2010-IP-040625 PCT/E-Billing 2010-IPRO-040625

Assignors: Yumei Tang et al.

Title: SYSTEMS AND METHODS OF ROBUST DETERMINATION OF BOUNDARIES

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Docket No: 1880.359WO1

Serial Number: PCT/US2011/053486

IN TESTIMONY WHEREOF, I have hereunto set my hand this 8th day of October, 2011.

Michael Bittar

Michael S. Bittar

STATE OF Al-Khobar

COUNTY OF Saudi Arabia

Witness: JOHNY BABU
(Print Name)

Signature: *[Handwritten Signature]*

Date: 08/08/2011