PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2

SUBMISSION TYPE: NEW ASSIGNMENT

CONVEYING PARTY DATA

NATURE OF CONVEYANCE:

Name	Execution Date
XINPU SHEN	10/15/2014
WILLIAM B. STANDIFIRD	10/15/2014
SCOT EVANS	10/10/2014

ASSIGNMENT

RECEIVING PARTY DATA

Name:	LANDMARK GRAPHICS CORPORATION
Street Address:	2107 CITY WEST BLVD., BLDG. 2
City:	HOUSTON
State/Country:	TEXAS
Postal Code:	77042

PROPERTY NUMBERS Total: 1

Property Type	Number
PCT Number:	US2014053171

CORRESPONDENCE DATA

Fax Number: (214)200-0853

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.

Phone: 214-651-5000

Email: ipdocketing@haynesboone.com **Correspondent Name:** HAYNES AND BOONE, LLP

Address Line 1: 2323 VICTORY AVENUE, SUITE 700

Address Line 2: IP SECTION

Address Line 4: DALLAS, TEXAS 75219

ATTORNEY DOCKET NUMBER:	7523.892
NAME OF SUBMITTER:	VINU RAJ
SIGNATURE:	/Vinu Raj/
DATE SIGNED:	10/24/2014

Total Attachments: 5

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<u>PATFNT</u>

EPAS ID: PAT3080364

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ASSIGNMENT

WHEREAS, Xinpu Shen (an "ASSIGNOR"), a citizen of China, residing at 6518 Felicia Oaks Trail, Houston, Texas 77064, has developed and is the owner of certain inventions as embodied in and represented by the Intellectual Property, as defined below.

WHEREAS, William B. Standifird (an "ASSIGNOR"), a citizen of the United States of America, residing at 28502 Wild Mustang Lane, Fulshear, Texas 77441, has developed and is the owner of certain inventions as embodied in and represented by the Intellectual Property, as defined below.

WHEREAS, Scot Evans (an "ASSIGNOR"), a citizen of the United States of America, residing at 1818 Oakhurst Parkway, Sugar Land, Texas 77479, has developed and is the owner of certain inventions as embodied in and represented by the Intellectual Property, as defined below.

"Intellectual Property" shall collectively mean the technology developed by ASSIGNOR and generally titled:

OPTIMIZING MULTISTAGE HYDRAULIC FRACTURING DESIGN BASED ON THREE-DIMENSIONAL (3D) CONTINUUM DAMAGE MECHANICS

as w	ell as any application related thereto, including, without limitation, the application(s):
	of even date filed herewith;
X	filed on August 28, 2014 and assigned application number PCT/US2014/053171.

WHEREAS, each ASSIGNOR is desirous of assigning all of his right in the Intellectual Property to Landmark Graphics Corporation ("ASSIGNEE"), a corporation, doing business at 2107 City West Blvd., Bldg. 2, Houston, Texas 77042, United States of America.

NOW, THEREFORE, subject to the terms, conditions, covenants and provisions of this Assignment, and in consideration of Ten Dollars (\$10.00) and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged by each ASSIGNOR, the parties hereto, intending legally to be bound, agree as follows:

Each ASSIGNOR hereby sells, assigns and transfers to ASSIGNEE, its successors and assigns, said ASSIGNOR'S entire right, title, and interest in the Intellectual Property, including, without limitation, (i) all United States and foreign rights therein, whether patentable or not, and in and to aforesaid patents, patent applications and any divisions or continuations thereof, and any patents or similar registrations obtained for the Intellectual Property in the United States and foreign countries, or issuing out of said application or any such division or continuation thereof, and any reissues or extensions of any such patents, as well as all rights to claim priority to any of the foregoing and (ii) all causes of action, past, present, and future, for infringement, unfair competition or otherwise with respect to the Intellectual Property and all disclosures of ideas, whether or not patentable and all pending applications.

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Each ASSIGNOR hereby authorizes and requests the Commissioner of Patents of the United States, and any official of any country or countries foreign to the United States, whose duty it is to issue patents or other evidence or forms of industrial property protection on applications as aforesaid, to issue the same to the said ASSIGNEE, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

Each ASSIGNOR hereby covenants that (i) he believes himself to be the original and first inventor of the subject matter of the Intellectual Property; (ii) he has the full right to convey his entire right, title and interest in said Intellectual Property, and (iii) he has not executed and will not execute any agreement in conflict herewith.

Each ASSIGNOR further covenants that he will not undertake any activity to erode or challenge the ASSIGNEE'S rights in the Intellectual Property assigned hereunder.

Each ASSIGNOR further covenants that he will, at any time, upon ASSIGNEE'S request, execute and deliver any and all papers that may be necessary or desirable to perfect the title in the Intellectual Property, or any patents that may be granted therefore, in the ASSIGNEE, its successors and assigns, and if ASSIGNEE, or its assignee, desires to make a substitute, divisional or continuation application for said Intellectual Property, or to secure a reissue or extension of any Letters Patent, to file disclaimer relating thereto, or an application for a corresponding patent in any foreign country, or undertake any other act to secure and protect the ASSIGNEE'S rights in the Intellectual Property, that he will upon request, sign all papers, make all rightful oaths, and do all lawful acts requisite for the said purposes, but at the expense of the ASSIGNEE.

Each ASSIGNOR hereby acknowledges that the entire beneficial interest in the Intellectual Property and to which the above application relates is irrevocably vested in the ASSIGNEE including the right to make the application for protection in all countries abroad and to claim priority under the International Convention for such applications and hereby assents to the making of any such applications, with or without priority claims, and of any divisional application resulting therefrom.

Each ASSIGNOR further covenants that he will at all times communicate to the ASSIGNEE, its successors, assigns or legal representatives, all facts relating to the Intellectual Property, or the history thereof, known to him, and testify as the same in interferences or other litigation, when requested so to do.

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Executed and delivered this	day of2014.
Inventor: Vinpu Shen Xinpu Shen	
Xinpu Shen	
State of Texas §	
State of Texas § County of Harris §	
October 2014, Xinpu Shen,	authority, personally appeared this <u>15</u> day of known to me to be the person whose name is and acknowledged to me that he signed, sealed and
delivered the said instrument as his free a	and voluntary act and deed for the uses and purposes
therein set forth.	0
[SEAL]	Resu Danes Notary Public Kena Torras
	Notary Public Kina Torris
RENA TORRES Notary Public, State of Texas My Commission Expires April 24, 2018	My Commission Expires: 04-24-2018

Executed and delivered this day Inventor: William B. Standifirm	ay of2014.
State of Tixes § County of Harri's §	
County of Hatri's 8	
October 2014, William B. Star	authority, personally appeared this <u>15</u> day of addifird, known to me to be the person whose name is
	d acknowledged to me that he signed, sealed and doubtery act and deed for the uses and purposes
therein set forth.	
[SEAL]	Rotary Public Rena Torras
	Notary Public 10 Ma 10 NOLS
RENA TORRES Notary Public, State of Texas My Commission Expires April 24, 2018	My Commission Expires: 04-24-2018

Executed and delivered this 10 day of October 2014.	
Inventor: On MA Co. Scot Evans	
State of Texas § County of Harris §	
County of Harris §	
BEFORE ME, the undersigned authority, personally appeared this <u>logotoket</u> 2014, Scot Evans, known to me to be the person whose name is subscrib to the foregoing instrument, and acknowledged to me that he signed, sealed and delivered t said instrument as his free and voluntary act and deed for the uses and purposes therein set forth	ed he
[SEAL] Notary Public Rone Torres	
RENA TORRES & My Commission Expires: 04/24/26/8 Notary Public, State of Texas & My Commission Expires & My Commission & My Co	

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RECORDED: 10/24/2014

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