PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT6633643

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
JIAJUN ZHAO	06/17/2020
RUIJIA WANG	06/18/2020
QINGTAO SUN	06/16/2020
RICHARD TIMOTHY COATES	06/16/2020

RECEIVING PARTY DATA

Name:	HALLIBURTON ENERGY SERVICES, INC.
Street Address:	3000 N. SAM HOUSTON PKWY E.
City:	HOUSTON
State/Country:	TEXAS
Postal Code:	77032-3219

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	17219374

CORRESPONDENCE DATA

Fax Number: (512)670-8904

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: 5127108326

Email: uspto@gilliamip.com

Correspondent Name: GILLIAM IP PLLC (HALLIBURTON)

Address Line 1: 7200 N. MOPAC EXPY.

Address Line 2: SUIT 440

Address Line 4: AUSTIN, UNITED STATES 78731

ATTORNEY DOCKET NUMBER:	164.2020-IPM-103977-US01
NAME OF SUBMITTER:	MELISSA R. LUCAS
SIGNATURE:	/Melissa R. Lucas/
DATE SIGNED:	03/31/2021
	This document serves as an Oath/Declaration (37 CFR 1.63).

Total Attachments: 6

PATENT REEL: 055788 FRAME: 0044

506586861

PATENT REEL: 055788 FRAME: 0045

DECLARATION AND ASSIGNMENT

DOCKET NUMBER: 2020-IPM-103977 U1 PCT TITLE: ACOUSTIC DISPERSION CURVE IDENTIFICATION BASED ON RECIPROCAL CONDITION NUMBER

As an inventor, I declare that:

This declaration is directed to the patent application(s) accompanying this declaration and assignment. The patent application(s) accompanying this Declaration and Assignment is referred to as the "Application." The term "Invention" means any disclosure, invention, improvement, or discovery disclosed in the Application.

I affirm the following:

- 1) the Application was made or authorized to be made by me;
- 2) I believe that I am the original inventor or an original joint inventor of a claimed Invention;
- 3) I have reviewed and understand the content of the Application, including the claims; and
- 4) I am aware that I have a duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined by 35 U.S.C. §1.56(b).

FURTHERMORE, the undersigned hereby assigns or have assigned, and hereby transfers or have transferred to **Halliburton Energy Services**, **Inc.**, a Delaware corporation having a principal place of business at 3000 N. Sam Houston Parkway E., Houston, TX 77032-3219, and any of its successors, legal representatives, and assignees the entire worldwide right, title, and interest in and to the Invention, the Application, and any and all other patent applications and patents for the Invention which may be applied for or granted therefrom in the United States and in all foreign countries and jurisdictions, including all continuing applications (i.e., divisionals, continuations, continuations-in-part), reissues, reexaminations, renewals, extensions, counterparts, substitutes, and extensions thereof, and all rights of priority resulting from the filing of such applications and granting of such patents.

In addition, the undersigned authorizes and requests the Director of the United States Patent and Trademark Office to issue any United States Patent, and foreign patent authorities to issue any foreign patent, granted for the Invention, to **Halliburton Energy Services, Inc.**, its successors, legal representatives, and assignees, the entire worldwide right, title, and interest in and to the same to be held and enjoyed by **Halliburton Energy Services, Inc.**, its successors, legal representatives, and assignees to the full end of the terms for which any and all such patents may be granted, as fully and entirely as would have been held and enjoyed by the undersigned had this Assignment not been made.

The undersigned also agrees to execute any and all documents and instruments and perform all lawful acts reasonably related to recording this Assignment or perfecting title to the Invention and all related patents and applications, for **Halliburton Energy Services**, Inc., its successors, legal representatives, and assignees, whenever requested by **Halliburton Energy Services**, Inc.,

Page 1 of 6

PATENT REEL: 055788 FRAME: 0046 its successors, legal representatives, or assignees.

The undersigned further agrees to: (a) cooperate with **Halliburton Energy Services, Inc.**, in the protection of the Invention and prosecution of domestic and foreign patent applications claiming the Invention; (b) execute, verify, acknowledge and deliver further documents, including patent applications and instruments of transfer; and (c) perform such other acts as **Halliburton Energy Services**, **Inc.**, lawfully may request to obtain or maintain any patent arising from the Application and any and all applications and registrations for the Invention in any and all countries.

The undersigned acknowledges any prior and ongoing obligations to sell, assign, and transfer the rights under this Assignment to **Halliburton Energy Services**, **Inc.**, and possesses the full and unencumbered right to assign and transfer the rights hereby assigned, and transferred. The undersigned has not executed, and will not execute, any document or instrument in conflict with this Assignment. The undersigned also hereby grants **Halliburton Energy Services**, **Inc.**, its successors, legal representatives, and assignees, the right to insert in this Assignment any further identification (including, but not limited to, the Application) which may be necessary or desirable for recordation of this Assignment. This Assignment is governed by the substantive laws of the State of **Texas**, and any disputes will be resolved in a **Texas** state court or federal court sited in **Texas**.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

Page 2 of 6

DOCKET NUMBER: 2020-IPM-103977 U1 PCT

3		ĸ.	×	٠.	٠,	۰		н		۰		8		٠,	۰	٠		3	8	٠.	٠	٠,		ы	9	٠	۰	۰	۰	×	з	8	٠,		۰	٠	۰	П	×	и	2	и	8			۰		٠.	۰	٠
ď	*	0	١	٠,	м	N	n				۰	٠			и	ď	٠	ú	ſ.	٠	٠,	٠.	13	3	4	٠		٠	٠,	٠		۰	۰	٧	н	ď		۰		ĸ	٠,	8	м	e.	•	ĸ	2	۸		
	•	и	×		и	О.	т	а	м	Ľ	ĸ	ð	х	и	٠.	4	м	L		۰	ŀ	'n		а	н	٠	х	ч		e		c			υ	a		ů	ø	Ç,	ż	a	и	н	2	в	٠	01	Đ.	
٩		с		v	v.	N	o	7	м	L	×	о	v	۰	×	к	v	Ç.	٠	۰	۰		ч	ø		Э.	ж	4	۰	2	8	v	φ.	×	N	ĸ,	٠	ч	Ф	v	۰	А	ж	٠.	ж	4	8	v	Γ.	
			٠,			o	х		٠,	c	7	٠.			٠.	٠,		х	8		٠		٠		0		٠,	٠.	٦	т	×		×			٠,	٠,		×	×	٠.	•						×	۰	

(Signature):

Name: Jiajun Zhao

City/State: Houston/Texas

Date: 06/17/2020

DOCKET NUMBER: 2020-IPM-103977 U1 PCT

Assignor: Ruijia Wang

| S | Siį | Sigr | Signa | Signat | Signatu | Signature | Signature): 성 | Signature): サ. | Signature): タタ | Signature): ガン | Signature): ガビ | Signature): 224 | Signature): | Signature): | Signature): 1224 | Signature): | Signature): | Signature): | Signature): | Signature): 224 | Signature): | Signature): | Signature): | Signature): | Signature): 224 | Signature): | Signature): | Signature): 1224 |
|---|-----|------|-------|--------|---------|-----------|-------------|-------------|-------------|-------------|-------------|-------------|---------------|----------------|----------------|----------------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------------|-------------|-------------|------------------|-------------|-------------|-------------|-------------|-----------------|-------------|-------------|-------------|-------------|-----------------|-------------|-------------|------------------|

Name: Ruijia Wang

City/State: Singapore

Date: 2020-JUN-18

Assignor: Qingtao Sun

(Signature):	Gingtao Sun
	Name: Qingtao Sun
	City/State: Spring/TX

Date: 06/16/2020

Assignor: Richard Timothy Coates

(Signature):

Name: <u>RICHAGO YTHUTHY COLFIG</u>S

City/State: KATY, TEXAS

Date:

6/16/2020

Page 6 of 6

PATENT REEL: 055788 FRAME: 0051