

## PATENT ASSIGNMENT COVER SHEET

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<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
JIYOUNG CHOI	01/09/2020
JI-HOON KIM	01/09/2020
JOO YONG LEE	01/09/2020
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<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	16646260
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<b>NAME OF SUBMITTER:</b>	JONGWON KIM
<b>SIGNATURE:</b>	/jwkim/
<b>DATE SIGNED:</b>	03/11/2020
This document serves as an Oath/Declaration (37 CFR 1.63).	
<b>Total Attachments: 2</b>	
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## COMBINED DECLARATION AND ASSIGNMENT (37 CFR 1.63)

As the below named inventor, I hereby declare that this Declaration is directed to:

TITLE: SHALE GAS EXTRACTING DEVICE AND EXTRACTING METHOD THEREFOR

the specification of which: (complete (a), (b) or (c))

(a) ☐ is attached hereto.

(b) ☐ was filed in the U.S. Patent & Trademark Office on \_\_\_\_\_ and assigned Serial No.: \_\_\_\_\_ and was amended on \_\_\_\_\_ (if applicable).

(c) ☒ was described and claimed in PCT International Application No. PCT/KR2018/010669 filed on September 12, 2018 and as amended under PCT Article on \_\_\_\_\_ (if any).

The above-identified application was made or authorized to be made by me. I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

WHEREAS,

ASSIGNEE: **KOREA INSTITUTE OF GEOSCIENCE AND MINERAL RESOURCES**

ADDRESS: (Gajeong-dong) 124 Gwahak-ro, Yuseong-gu, Daejeon 34132 Republic of Korea

is desirous of acquiring the entire right, title and interest in and to said invention and in and to any Letters Patent that may be granted therefore in the United States and its territorial possessions and in any and all foreign countries.

NOW, THEREFORE, in consideration of the sum of FIVE DOLLARS (\$5.00), the receipt whereof is hereby acknowledged, and for other good and valuable consideration, I, by these presents do sell, assign and transfer unto said ASSIGNEE, the full and exclusive right to the said invention in the United States and its territorial possessions and in all foreign countries (including the right to claim priority under the terms of the International Convention and other relevant International Treaties and Arrangements from the aforesaid application) and the entire right, title and interest in and to any and all Letters Patent which may be granted therefor in the United States and its territorial possessions and in any and all foreign countries and in and to any and all divisions, reissues, continuations, substitutions and renewals thereof.

I hereby authorize and request the Patent Office Officials in the United States and its territorial possessions and any and all foreign countries to issue any and all of said Letters Patent, when granted, to said ASSIGNEE as the assignee of my entire right, title and interest in and to the same, for the sole use and behoof of said ASSIGNEE, its (his) successors and assigns, to the full end of the term for which said Letters Patent may be granted, as fully and entirely as the same would have been held by me had this Assignment and sale not been made.

Further, I agree that I will communicate to said ASSIGNEE or its (his) representatives any facts known to me respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuation, substitute, renewal and reissue applications, execute all necessary assignment papers to cause any and all of said Letters Patent to be issued to said ASSIGNEE, make all rightful oaths, and, generally do everything possible to aid said ASSIGNEE, its (his) successors and assigns, to obtain and enforce proper protection for said invention in the United States and its territorial possessions and in any and all foreign countries.

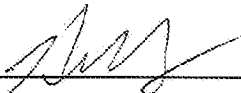
I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

Address all correspondence and telephone calls to LEX IP MEISTER, PLLC., 5180 Parkstone Drive, Suite 175, Chantilly, Virginia 20151; Telephone: (703) 263-9390; Fax: (703) 263-9361, Customer No. 66390.

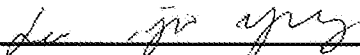
**FIRST INVENTOR:** Jiyoung CHOI

Signature:  Date: Jan 09, 2020

**SECOND INVENTOR:** Ji-Hoon KIM

Signature:  Date: Jan 09, 2020

**THIRD INVENTOR:** Joo Yong LEE

Signature:  Date: Jan 09, 2020