## 504344850 05/01/2017

# PATENT ASSIGNMENT COVER SHEET

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| SUBMISSION TYPE:      | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT     |

### **CONVEYING PARTY DATA**

| Name         | Execution Date |
|--------------|----------------|
| ZHONGXING LI | 04/28/2017     |
| JIYONG ZHAO  | 04/28/2017     |
| XUEFENG QU   | 04/28/2017     |
| QIHONG LEI   | 04/28/2017     |
| YOUAN HE     | 04/28/2017     |
| WUBIN GAO    | 04/28/2017     |
| WANTAO LIU   | 04/28/2017     |
| XUANRU WANG  | 04/28/2017     |
| WENLONG CHEN | 04/28/2017     |
| GUOXI ZHAO   | 04/28/2017     |

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| City:           | DONGCHENG DISTRICT, BEIJING |
| State/Country:  | CHINA                       |

### **PROPERTY NUMBERS Total: 1**

| Property Type       | Number   |
|---------------------|----------|
| Application Number: | 15582796 |

## **CORRESPONDENCE DATA**

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NAME OF SUBMITTER: ROBERT M. SIMINSKI

PATENT 504344850 REEL: 042188 FRAME: 0708

| SIGNATURE:                           | /Robert M. Siminski/ |  |
|--------------------------------------|----------------------|--|
| DATE SIGNED:                         | 05/01/2017           |  |
| Total Attachments: 4                 |                      |  |
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| source=Executed_Assignment#page2.tif |                      |  |
| source=Executed_Assignment#page3.tif |                      |  |
| source=Executed_Assignment#page4.tif |                      |  |

PATENT REEL: 042188 FRAME: 0709

#### **ASSIGNMENT**

WHEREAS, the undersigned, hereinafter referred to collectively as Assignor, has invented:

# METHOD FOR ENHANCING OIL RECOVERY IN HUFF-PUFF OIL PRODUCTION OF TIGHT OIL FROM A FRACTURED HORIZONTAL WELL

for which Assignor is about to make or has made United States or International application for patent

(a) Executed on even date preparatory to filing (each inventor should sign this Assignment on the same day as he/she signs the Declaration);

(b) executed on \_\_\_\_\_, \_\_\_\_\_; or

(c) filed on \_\_\_\_\_, and assigned Serial No. \_\_\_\_\_ or PCT International Application No. \_\_\_\_\_; and

WHEREAS, PetroChina Company Limited, having a place of business at 9 Dongzhimen North Street, Dongcheng District, Beijing, P.R.China, hereinafter referred to as Assignee, is desirous of acquiring all right, title, and interest therein:

NOW, THEREFORE, for good and valuable consideration, the receipt and adequacy whereof is hereby acknowledged, Assignor hereby confirms any prior assignment to Assignee, and to the extent that Assignor has not already done so, agrees to assign, and hereby does, sell, assign and transfer unto Assignee and its successors in interest, the full and exclusive right, title and interest in the United States of America and throughout the world, including the right to claim priority under the laws of the United States, the Paris Convention, and any foreign countries, to the inventions as described in the aforesaid application, to the aforesaid application itself, and all divisions, continuations, continuations-in-part, or other applications claiming priority directly or indirectly from the aforesaid application, and any United States or foreign Letters Patent, utility model, or other similar rights which may be granted thereon, including reissues, reexaminations and extensions thereof, and all copyright rights throughout the world in the aforesaid application and the subject matter disclosed therein, these rights, title and interest to be held and enjoyed by Assignee to the full end of the term for which the Letters Patent, utility model, or other similar rights, are granted and any extensions thereof as fully and entirely as the same would have been held by Assignor had this assignment and sale not been made, and the right to sue for, and recover for past infringements of, or liabilities for, any of the rights relating to any of the applications, patents, utility models, or other similar rights, resulting therefrom, and the copyright rights.

Assignor hereby covenants and agrees to execute all instruments or documents required or requested for the making and prosecution of any applications of any type for patent, utility model, or other similar rights, and for copyright, in the United States and in all foreign countries including, but not limited to, any provisional, continuation, continuation-in-part, divisional, renewal or substitute thereof, any derivation proceedings relating thereto, and as to Letters Patent any supplemental examination, derivation proceeding, opposition, post grant review, reissue, re-examination, inter partes review, or extension thereof, and for litigation regarding, or for the purpose of defending the validity of or protecting title to the said invention, the United States application for patent, or Letters Patent therefor, and to testify in support thereof, for the benefit of Assignee and its successors in interest without further or other compensation than that above set forth.

Assignor hereby covenants that no assignment, sale, license, agreement or encumbrance has been or will be entered into which would conflict with this Assignment. Assignor further covenants not to challenge, or assist or participate in any third party challenge to, the assigned inventions, or any patent application or patent thereon, whether by litigation, post grant review, inter partes review, covered business method review, reexamination, or otherwise.

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Assignor hereby requests the United States Patent and Trademark Office to issue the Letters Patent of the United States of America to Assignee, and requests that any official of any country or countries foreign to the United States, whose duty it is to issue or grant patents and applications as aforesaid, to issue the Letters Patent, Utility Model Registration or other similar right to Assignee.

The undersigned hereby grant(s) the law firm of Harness, Dickey & Pierce, P.L.C. the power to insert on this Assignment any further identification which may be necessary or desirable in order to comply with the rules of the U.S. Patent and Trademark Office for recordation of this document.

# **ASSIGNMENT**

| Le Zhongshing<br>Zhongxing LI | Mor Jing Apr. 28. 2017 Witness                                    |
|-------------------------------|---|
| znongxing Li                  |   |
| Dated                         | Lin Jian Apr. 28.2017 Witness                                     |
| ( دود. الاد. ١١٠ ١١٠ م        | Sem Dana Ang( 20 247  |
| Jivona ZHAO                   | Sun Dong Apy. 28. 2017 Witness                                    |
| Jiyong ZHAO                   | <u>Jiwei Wang</u> Apr. 28. 2017<br>Witness                        |
| Dated                         | Witness   |
| Apr. >8. 2017                 | La Plancia 6 al mi  |
| Xuefeng QU                    | Li 2h: wer Apr. 26.2017 Witness                                   |
| Xue feng QV Dated             | Lu Min Arr. 28.2017 Witness                                       |
| Dated J                       | Witness   |
| Apr. 28. 2017                 | Dia / Ann 28 202  |
| Lei gihong                    | Ding Li Apr. 28. 2017   |
| Qihong LEI                    | Witness   |
| <br>Dated                     | Li Zhang yuan Arr 26, 2017<br>Witness                             |
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| Apr. 28 · 2017<br>Youan HE    | Nom Zhonghu Apr. 28, 2017 Witness Song Pang Apr. 28, 2017 Witness |
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| Youan HE<br>Dated             | Song Keng Apr. 28. 2017   |
| Apr. 28. 2017                 | vvitness  |
| •                             | In Brand Now Se soll  |
| Wubin GAO                     | Liu (diang /spr. 28.201) Witness                                  |
| Wubiii GAO                    | Wes gus Yang Apr. 28. 2017 Witness                                |
|                               | Wes quo jung Hr. w. vs/)<br>Witness                               |
| Apr. 28.2017                  |   |

Page 3 of 4

# **ASSIGNMENT**

- Wantao LIU Wantao LIU Dated
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- <u>Xuanru Wang</u> Dated
  - Apr. 28.2017
- Wenlong CHEN
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  Dated
- آ امد . که ی کار . Guoxi ZHAO Guozi Zhao Dated
  - Apr. 28.2017

- Jun Yang Apr. 28. 2017 Witness
- Witness juan Apr 26, 2017
- Wendin Gao Apr. 28.2017
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- Yue Ting Apr. 26. 2017. Witness
- Wang Chong Apr. 28.201
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  Yong xing Young Apt 28:207

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