

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT5435386

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
ARAMCO SERVICES COMPANY	04/01/2016
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	SAUDI ARABIAN OIL COMPANY
<b>Street Address:</b>	1 EASTERN AVENUE
<b>City:</b>	DHAHRAN
<b>State/Country:</b>	SAUDI ARABIA
<b>Postal Code:</b>	31311
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	15800926
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(877)769-7945
<i>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.</i>	
<b>Phone:</b>	+1 (713) 654-5398
<b>Email:</b>	mattioli@fr.com, apsi@fr.com
<b>Correspondent Name:</b>	FLORON C. FARIES
<b>Address Line 1:</b>	FISH & RICHARDSON P.C.
<b>Address Line 2:</b>	P.O.BOX 1022
<b>Address Line 4:</b>	MINNEAPOLIS, MINNESOTA 55440-1022
<b>ATTORNEY DOCKET NUMBER:</b>	38136-0199001
<b>NAME OF SUBMITTER:</b>	KIRSTIN MATTIOLI
<b>SIGNATURE:</b>	/kirstin mattioli/
<b>DATE SIGNED:</b>	03/22/2019
<b>Total Attachments: 4</b>	
source=38136-0199P01 - ASC to SAO - signed#page1.tif	
source=38136-0199P01 - ASC to SAO - signed#page2.tif	
source=38136-0199P01 - ASC to SAO - signed#page3.tif	
source=38136-0199P01 - ASC to SAO - signed#page4.tif	

**INTELLECTUAL PROPERTY ASSIGNMENT  
FROM ARAMCO SERVICES COMPANY  
TO SAUDI ARABIAN OIL COMPANY**

This Intellectual Property Assignment ("**Assignment**"), dated as of April 1, 2016, is made by Aramco Services Company, a Delaware corporation, having offices at 9009 West Loop South, Houston, Texas 77096-1719 ("**Assignor**"), in favor of Saudi Arabian Oil Company, a company with limited liability, duly organized and existing under the laws of the Kingdom of Saudi Arabia and established by Royal Decree M/8 dated 4/4/1409 H. ("**Assignee**") together recognized as "**Parties**".

RECITALS

WHEREAS, the parties previously executed an Intellectual Property Assignment, dated as of April 13, 2015, in which the Parties agreed that Assignor shall continue to assign intellectual property to Assignee on a quarterly basis; and

WHEREAS, Assignor is the present owner of the rights, title and interest in the invention disclosures, patents and patent applications set forth in the attached Schedule A (the "**Intellectual Property**") as of April 1, 2016;

NOW, for good and valuable consideration, the receipt and sufficiency of which is acknowledged, the Parties agree as follows:

1. Assignment of Intellectual Property. Assignor assigns to Assignee all of its rights, title and interest in and to the Intellectual Property, including, but not limited to:

(a) the right to make, use and sell the inventions associated with the Intellectual Property;

(b) the right to take all legal actions on account of past, present and future infringement of the Intellectual Property;

(c) the right to conduct and control all protection activities associated with the Intellectual Property as fully and entirely as the same would have been held and enjoyed by Assignor if this assignment had not been made, including for example: the filing and prosecution of any and all patent applications, including divisions, continuations, and continuations-in-part of existing applications assigned by this Assignment; reexaminations, reissues or other administrative proceedings; and the payment of issuance and maintenance fees; and

(d) any and all rights and obligations held by the Assignor arising under the Assignment in relation to the Intellectual Property.

2. Further Assurances. Assignor hereby covenants and agrees that it will at any time, upon the request and at the expense of Assignee but without further compensation, cooperate with Assignee in the protection of the Intellectual Property, including: all lawful acts that may be necessary to perfect the title to the Intellectual Property, such as the execution and delivery of

formal documents; cooperate with Assignee in the enforcement or licensing of the Intellectual Property, including in any interference, reexamination, or other litigation; communicate to Assignee, its successors and assigns, any facts known respecting the Intellectual Property and its history, and generally do everything possible which the Assignee shall consider desirable for vesting title to improvements in the Intellectual Property.

3. Warranties. Assignor hereby warrants that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been or will be made to others by the Assignor, and that the full right to convey the same as herein expressed is possessed by the Assignor, to the extent set forth in Schedule A.

IN WITNESS WHEREOF, the Parties have executed this Assignment as of April 1, 2016.

**ARAMCO SERVICES COMPANY**

By:   
Basil A. Abul-Hamayel 4.1.2016  
President

**SAUDI ARABIAN OIL COMPANY**

By:   
Ahmad Khowaiter  
Chief Technology Officer

**Intellectual Property Assignment  
from Aramco Services Company to Saudi Arabian Oil Company**

**Schedule A  
April 1, 2016**

Title	ASC Docket Number	SAO Docket Number	Application Date	Application Number	Inventors
Simulation Method to Optimize Hydraulic Fracturing in Kerogen-rich Unconventional Formations	ASC0092	SA7157			Yanhui Han (ASC) Leiming Li (ASC) Younane Abousleiman (ASC) Ghaithan Al-Mutasheri (ASC) David Jacobi (ASC) Katherine Huff (ASC)
Mesoporous Zeolite Beta Templated with Crystalline Nanocellulose Emulsifiers for Invert Emulsion Drilling Fluids	ASC0104	SA5536			Tatiana Pilyugina (ASC)
Remedial Aqueous Resin compositions for Sealing off Flow Channels Bound by Set Portland Cement at Least on one Side and Methods of Using the Same	ASC0106				Matthew Gary Hilfiger (ASC) Carl Thaemnitz (ASC) B.Raghava Reddy (ASC) Matthew Gary Hilfiger (ASC)
Real Time Multi-physics Detection of Multimodal Tracers	ASC0109	SA7153			Jason R. Cox (ASC) Martin Poitzsch (ASC) Shannon Eichmann (ASC) Wei Wang (ASC) Hooisweng Ow (ASC) Sehoon Chang (ASC) Rena Shi (ASC) David Jung (ASC) Ayrat Gizzatov (ASC) Mohammad Haque (ASC) Anthony Kmetz (ASC) Hsieh Chen (ASC)

Low-Phosphorous Gelled Hydrocarbon Well Treatment Fluids	ASC0117	SA6063		Leiming Li (ASC) Ghaithan Al-Muntasheri (ASC) Feng Liang (ASC) Selmus Ozden (ASC)
Enhancements of Gelled Hydrocarbon System	ASC0119	SA6060		Selmus Ozden (ASC) Leiming Li (ASC) Ghaithan Al-Muntasheri (ASC) Feng Liang (ASC)
High Performance Brine Viscosifier	ASC0133	SA5537		Peter J. Boul (ASC)
Water Injection for Performance Enhancement of Spark-ignition Engines with Onboard Reforming Systems	ASC0138	SA3076		Alexander Karl Voice (ASC) Vincent Costanzo (ASC)
Controlling Gels Times of Remedial Aqueous Resin Compositions for Sealing off Flow Channels	ASC0148			B. Raghava Reddy (ASC) Matthew Gary Hillfiger (ASC)
Aminosiloxane as Effective Crosslinkers for Water-based Sealing Compositions Comprising Ethylene/Maleic Anhydride/Maleic Acid/Maleamic Acid Tetrapolymer Gels	ASC0150			B. Raghava Reddy (ASC) Matthew Gary Hillfiger (ASC)