

<b>PATENT ASSIGNMENT COVER SHEET</b>
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Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT5026306

<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	10/01/2016
<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>	15593099
<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>	214-292-4039
<b>Email:</b>	apsi@fr.com
<b>Correspondent Name:</b>	FISH & RICHARDSON P.C.
<b>Address Line 1:</b>	P.O. BOX 1022
<b>Address Line 4:</b>	MINNEAPOLIS, MINNESOTA 55440-1022
<b>ATTORNEY DOCKET NUMBER:</b>	38136-0238001
<b>NAME OF SUBMITTER:</b>	PEGGY C. HARRIS
<b>SIGNATURE:</b>	/Peggy C. Harris/
<b>DATE SIGNED:</b>	06/27/2018
<b>Total Attachments: 4</b>	
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**INTELLECTUAL PROPERTY ASSIGNMENT  
FROM ARAMCO SERVICES COMPANY  
TO SAUDI ARABIAN OIL COMPANY**

This Intellectual Property Assignment ("Assignment"), dated as of October 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 October 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.

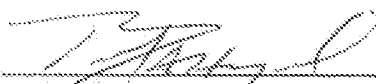
2. Further Assurances. Assignor hereby covenants and agrees that it will at any time, upon the request and at the expense of Assignee but without further compensation, cooperate with Assignee in the protection of the Intellectual Property, including: all lawful acts that may be necessary to perfect the 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 October 1, 2016.

ARAMCO SERVICES COMPANY

By:   
Basil A. Abul-Hamayel  
President

SAUDI ARABIAN OIL COMPANY

By:   
Ahmad Khowaiter  
Chief Technology Officer

Schedule A - Quarterly Assignment - October 1, 2016

Title	ASC Docket Number	SAO Docket Number	Application Date	Application Number	Inventors
Real-Time Rig-Site Shale Mechanical Characterization	ASC0038				Katie Hull (ASC) Younane N. Abousleiman (ASC)
Loss Circulation Compositions Comprising Portland Cement Clinker, a Suspending Agent and a Silicate Salt	ASC0043				B. Raghava Reddy (ASC)
Loss Circulation Compositions Comprising Portland Cement Clinker, a Polysulfonate and Optionally a Suspending Agent	ASC0044				B. Raghava Reddy (ASC)
Additives to Minimize Viscosity Reduction for Guar/ Borate System under High Pressure	ASC0103	SA5603			Feng Liang (ASC) Ghaithan Al-Muntasheri (ASC) Abdulrahman F. Alharbi (Saudi Aramco)
Preparation of Rubbery Composite Membrane for Heavy Hydrocarbon Removal	ASC0108	SA6096			John Yang (ASC) Milind Vaidya (Saudi Aramco) Veera Venkata Rami Krishna (Saudi Aramco) Daniel Harrigan (ASC)
Method to Dissolve Iron Sulfide	ASC0116	SA7184	09/01/16	62/382558	Katherine Hull (ASC) Brent Cooper (ASC)
A virtual source redatuming procedure to improve land 4D repeatability	ASC0129	SA7220			Yang Zhao (ASC) Roy Burnstad (ASC) Weichang Li (ASC)
An Improvement to Brazilian Disc Test in Measuring Materials' Elastic Properties	ASC0151	SA7213			Yanhui Han (ASC) Bitao Lai (ASC) Hui-Hai Liu (ASC)
Loss Circulation Compositions (LCM) comprising Portland cement clinker, a suspending medium and a high aspect ratio material	ASC0168				BR Reddy (ASC)
Programmed thermal decomposition of polymeric materials and their detection via pyrolysis GC/MS for oilfield tracer applications	ASC0176	SA7197			Jason Cox (ASC)
Optimization of sweep efficiency for horizontal waterfloods using inflow control devices and deep reservoir measurements	ASC0183	SA7207	09/02/16	62/383240	Onur Balan (ASC) Anuj Gupta (ASC) Dan Georgi (ASC) Ali Khatib (Saudi Aramco) Alberto Marsala (Saudi Aramco)

<p>A CO<sub>2</sub>-phillic coating on a proppant material that dissolves in the CO<sub>2</sub>-enhanced fluid at operating conditions such that it modifies the CO<sub>2</sub>-enhanced fluid's physical properties and the proppant is now buoyant</p>	<p>ASCO189</p>	<p>SA6099</p>	<p>Feng Liang (ASC) Ghailthan Al-Muntasheri (ASC) Leiming Li (ASC) B. Raghava Reddy (ASC) B. Raghava Reddy (ASC)</p>
<p>Oil Swellable, Surface-Treated Elastomeric Polymer Beads and methods of Using the Same for Controlling Losses of Non-aqueous Wellbore Treatment Fluids to the Subterranean Formation</p>	<p>ASCO199</p>		
<p>Oil-Swellable Polymer Gels and Methods of Using the Same for Preventing Loss of Non-Aqueous Wellbore Fluids to the Subterranean Formation</p>	<p>ASCO200</p>		<p>B. Raghava Reddy (ASC) Matthew Hiffiger (ASC)</p>