

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT4786154

<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	01/01/2017
<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>
Application Number:	15873576
<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
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<b>ATTORNEY DOCKET NUMBER:</b>	38136-0178001
<b>NAME OF SUBMITTER:</b>	PEGGY C. HARRIS
<b>SIGNATURE:</b>	/Peggy C. Harris/
<b>DATE SIGNED:</b>	01/22/2018
<b>Total Attachments: 3</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 January 1, 2017, 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 January 1, 2017;

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.

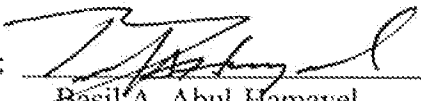
2. Further Assurances. Assignor hereby covenants and agrees that it will at any time, upon the request and at the expense of Assignee but without further compensation, cooperate with Assignee in the protection of the Intellectual Property, including: all lawful acts that may be necessary to perfect the 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 January 1, 2017.

**ARAMCO SERVICES COMPANY**

By:   
Basil A. Abul-Hamayel  
President

**SAUDI ARABIAN OIL COMPANY**

By:   
Ahmad Khowaiter  
Chief Technology Officer

Schedule A - Quarterly Assignment - January 1, 2017

Title	ASC Docket Number	SAO Docket Number	Application Date	Application Number	Inventors
Capsule Design for the Capture of Reagents	ASC0050	SA5628			Elizabeth Q. Contreras (ASC)
Material Design for the Encapsulation of A+D24+D52	ASC0051	SA5629			Elizabeth Q. Contreras (ASC)
Spent Polyamide Capsules to Fulfill Role of Latexes	ASC0052	SA5630			Elizabeth Q. Contreras (ASC)
Qualitative and Quantitated Measurements for Encapsulated Chemical Agents as Tracers and Sensors	ASC0053	SA5631			Elizabeth Q. Contreras (ASC)
An Improved Hydraulic Fracturing Treatment Technique for Multistage Horizontal or Vertical Wells	ASC0160	SA7255			Bitao Lai (ASC) Feng Liang (ASC) Leiming Li (ASC) Jilin Zhang (ASC)
Enhanced Spatial Resolution of Magnetic Resonance Imaging Using B1 Field Map and Controlled Relative rf Coil Motion	ASC0171	SA7089			Chen, Jinhong (ASC) Althaus, Stacey (ASC) Delshad, Mohammad (ASC) Yang Zhao (ASC)
Aerosol processing method for the controlled coating of surface species to generate metathesis catalysts	ASC0195				Maxim Bukhovko (ASC) Michel Ostraat (ASC)
Heat Generating Catalyst For Hydrocarbons Cracking	ASC0198	SA6025	05/12/16	62/335213	Ola Ali (Saudi Aramco) Hussain Yami (Saudi Aramco) Mark Kaminsky (ASC) Sohel Shaikh (Saudi Aramco) Wei Xu (Saudi Aramco)
Tailoring the hierarchical structure of high silicon beta zeolites using base leaching and pore directing agents	ASC0209				Ke Zhang (ASC) Sergio Fernandez (ASC)
A steam-less process for converting butenes to 1,3-butadiene	ASC0215	SA5767			Faisal H Alshafei Miao Sun Munir D Khokhar Zhonglin Zhang Sohel K Shaikh (Saudi Aramco) Mark P Kaminsky (ASC)