PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT4847392

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
ARAMCO SERVICES COMPANY	07/01/2017

RECEIVING PARTY DATA

Name:	SAUDI ARABIAN OIL COMPANY
Street Address:	1 EASTERN AVENUE
City:	DHAHRAN
State/Country:	SAUDI ARABIA
Postal Code:	31311

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15909659

CORRESPONDENCE DATA

Fax Number: (877)769-7945

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.

Phone: 214-292-4039
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Correspondent Name: FISH & RICHARDSON P.C.
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ATTORNEY DOCKET NUMBER:	38136-0374001
NAME OF SUBMITTER:	PEGGY C. HARRIS
SIGNATURE:	/Peggy C. Harris/
DATE SIGNED:	03/01/2018

Total Attachments: 5
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INTELLECTUAL PROPERTY ASSIGNMENT FROM ARAMCO SERVICES COMPANY TO SAUDI ARABIAN OIL COMPANY

This Intellectual Property Assignment ("**Assignment**"), dated as of July 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, Assignor is in the business of, among other things, providing services for the benefit of Assignee, including research services;

WHEREAS Assignee provides Assignor with compensation for the research services provided by Assignor pursuant to the Services Agreement between Saudi Arabian Oil Company and Aramco Services Company dated November 13, 1988;

WHEREAS inventions and know-how embodied in invention disclosures, patents and patent applications have been produced in the performance of the research provided by Assignor for Assignee;

WHEREAS Assignor is the present owner of the rights, title and interest in the invention disclosures, patents and patent applications set forth in Schedule A (the "**Intellectual Property**") as of July 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. Quarterly Assignments. For the Term of this Assignment, Assignor shall continue to assign intellectual property to Assignee on a quarterly basis. These subsequent, quarterly assignments, which shall begin on October 1, 2017, shall be (i) in a form similar to the Schedule A attached to this Assignment, (ii) designated as a subsequent Schedule subject to this Assignment, and (iii) sent to the attention of the Practice Group Leader of Assignee's IP Law Group.

3. 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.

4. 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.

5. Term. The term of this Assignment shall be for two (2) years, from June 15, 2017 to June 30, 2019.

IN WITNESS WHEREOF, the Parties have executed this Assignment on the first date of the Term.

ARAMCO SERVICES COMPANY

By: _____
Basil A. Abul-Hamayel
President

SAUDI ARABIAN OIL COMPANY

By: _____
Ahmed Khowaiter
Chief Technology Officer

Schedule A - Quarterly Assignment - July 1, 2017

Title	ASC Docket Number	SAO Docket Number	Application Date	Application Number	Inventors
Method and device for measuring source rock potential using an insitu-quantum electron scanner.	ASC0085	SA7333			Sebastian Csutak
Method and device for measuring source rock potential using Terahertz Analysis	ASC0086	SA7338			Sebastian Csutak
Rheology modifiers for invert emulsion fluids	ASC0163	SA6160			Matt Hilfiger
Real-Time Molecular Monitoring of Wellhead Gas to Predict and Prevent Retrograde Gas Condensate Banking	ASC0177	SA7332			Anthony Kmetz Vinay Roman Jason Cox
Method to Characterize Hydraulic Fracture Stimulated Reservoir Volume (SRV) through Nano/Microseismic Events	ASC0181	SA7346			Katie Hull Younane Abousleiman
Expert System for Quantifying Mineralogy Using The Integration of EDS, WDS, BSE, and SEM.	ASC0184	SA2067	15-May-17	62/506263	David Jacobi John Longo Jordan Kone Qiushi (Jason) Sun
Method for Enhancing Reservoir Production Optimization by Integrating Inter-Well Tracer Test Data	ASC0194	SA7347			Hsieh Chen Martin Poitzsch
New algorithm in predicting carbonate porosity through modeling of deposition, cementation, and compaction as a function of mud content	ASC0212	SA7329			Shuo Zhang Peng Lu (SAO) Dave Cantrell (SAO) Dawn Jobe Susan Agar
Coded Transmission Ultrasonic Tomography	ASC0213				Weichang Li Max Deffenbaugh
Sheathed Lanthanide Emitter Barcoded Tracers with Ultra-low Detectability: method of making, detection and use as cross-well tracers	ASC0219	SA7349			Sweng Ow Rena Shi Jason Cox Sehoon Chang
Low Temperature Resin Systems	ASC0224	SA7331			Matt Hilfiger BR Reddy
Removing Iron Sulfide Scales with Low-Cost Household Chemicals	ASC0225	SA5735			Heijan (Henry) Sun Leiming Li Feng Liang

Method for capacitive cancellation of piezo tuning fork for fluid property measurements	ASC0227				Huseyin Seren Miguel Gonzalez Sebastian Csutak Max Deffenbaugh
A material with improved handling synthesized from the processing of discrete catalysts and catalytic precursors	ASC0232				Michele Ostraat Brian Hanna Max Bukhovko
Method for the processing of discrete catalysts into a single material with improved handling	ASC0233				Brian Hanna Michele Ostraat Tim Kucharski
Microwave Characterization of Geochemical Properties of Liquid Hydrocarbons	ASC0239	SA5734			Oliverio Alvarez David Jacobi
Algorithm for cost effective Jacobian building in compositional reservoir simulation through machine-learning based thermodynamic fluid property predictions	ASC0240	SA7334			Abishek Kashinath
Integration of machine-learning-based surrogate models for fast and accurate vapor-liquid equilibria calculations in a reservoir simulator for simulating multiphase flows	ASC0245	SA7352			Vinay Raman Todd Ferguson
High Resolution Image Analysis for Dip Estimation	ASC0254	SA7330			Hyoungsu Baek
Method and Device for Gas Composition	ASC0255	SA7337			Sebastian Csutak Weichang Li Angelo Sampaolo Greg Ham
Methods and Compositions to Retard Strong Acid Systems	ASC0256	SA2066	23-Jun-17	62/524385	Mohammed Sayed Amy Cairns Bashayer Aldakkan (SAO) Ahmed Gomaa (SAO) Khalid Al-Noaimi (SAO)
3D Printing of Cementitious Materials	ASC0260	SA5738			Peter Boul Carl Thaemlitz
High Spatial Resolution Nuclear Magnetic Resonance Logging	ASC0261	SA7339			Jinhong Chen Stacey Althaus Mohammad Delshad Yang Zhao

Fracturing Fluids Comprising Alkanolamine borate esters as crosslinkers for Polysaccharides	ASC0262	SA5765			BR Reddy Feng Liang Leiming Li
Kerogen Control Fluid for Source Rock Carbonates	ASC0263				Katie Hull Younane Abousleiman David Jacobi
Efficient Removal of Sulfides from Minerals	ASC0264				Katie Hull David Jacobi
Failure Behavior of Kerogen-Rich-Shale (KRS) Composites at meso-scales	ASC0267		2-Jun-17	62/515840	Mohammad Haque Younane Abousleiman Katie Hull Yanhui Han