

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT8226650

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
ARAMCO SERVICES COMPANY	07/20/2022

RECEIVING PARTY DATA

Name:	SAUDI ARAMCO TECHNOLOGIES COMPANY
Street Address:	P.O. BOX 62
City:	DHAHRAN
State/Country:	SAUDI ARABIA
Postal Code:	31311

PROPERTY NUMBERS Total: 22

Property Type	Number
Application Number:	18192122
Application Number:	17462904
Application Number:	18147565
Application Number:	18066059
Application Number:	18059178
Application Number:	18305160
Application Number:	18050342
Application Number:	18336768
Application Number:	18066645
Application Number:	18050330
Application Number:	18068644
Application Number:	18296858
Application Number:	17036359
Application Number:	17244118
Application Number:	17451936
Application Number:	16998539
Application Number:	17378352
Application Number:	17109760
Application Number:	17183859
Application Number:	17182691

PATENT

Property Type	Number
Application Number:	17452003
Application Number:	17069063

CORRESPONDENCE DATA

Fax Number:

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.

Email: mclaughlin@obwbip.com
Correspondent Name: BENJAMIN MCLAUGHLIN
Address Line 1: 1100 LOUISIANA ST
Address Line 4: HOUSTON, TEXAS 77002

NAME OF SUBMITTER: SEEMA M. MEHTA

SIGNATURE: /Seema M. Mehta/

DATE SIGNED: 10/18/2023

Total Attachments: 11

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PATENT ASSIGNMENT

THIS AGREEMENT, to be effective as of July 20, 2022, is by and between **ARAMCO SERVICES COMPANY**, a corporation having a place of business at 1200 Smith Street, Houston, Texas 77002, United States of America and **SAUDI ARAMCO TECHNOLOGIES COMPANY**, a corporation having a place of business at P.O. BOX 62 Dhahran, Saudi Arabia 31311.

WITNESSETH:

WHEREAS, **ARAMCO SERVICES COMPANY** is the owner of a 100% interest in and to the patent listed in Exhibit A attached hereto ("the Patent Rights"); and

WHEREAS, **SAUDI ARAMCO TECHNOLOGIES COMPANY** desires to obtain, and **ARAMCO SERVICES COMPANY** is willing to assign 100% of its interest in the Patent Rights to **SAUDI ARAMCO TECHNOLOGIES COMPANY**, the Patent Rights;

NOW, THEREFORE, for good and valuable consideration, the sufficiency and receipt of which are hereby acknowledged, the parties hereby agree as follows:

ARAMCO SERVICES COMPANY does hereby sell, assign, transfer, and set over unto **SAUDI ARAMCO TECHNOLOGIES COMPANY** 100% of its right, title, and interest in, to, and under (i) the patent listed in Exhibit A attached hereto, (ii) all patents which may issue from such patent including any continuations, divisionals, and continuations-in-part thereof, and (iii) the inventions claimed in such patents.

IN WITNESS WHEREOF, **ARAMCO SERVICES COMPANY** and **SAUDI ARAMCO TECHNOLOGIES COMPANY** have each caused their duly authorized representative to execute this Assignment.

ARAMCO SERVICES COMPANY

SAUDI ARAMCO TECHNOLOGIES COMPANY

Name: Bobby Horton

Name: Kwadjo Adusei-Poku

Title: General Counsel & Corporate Secretary

Title: Chief Legal Counsel and Corporate Secretary


Signature

Signature

July 20, 2022
Date

Date

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ARAMCO SERVICES COMPANY

SAUDI ARAMCO TECHNOLOGIES COMPANY

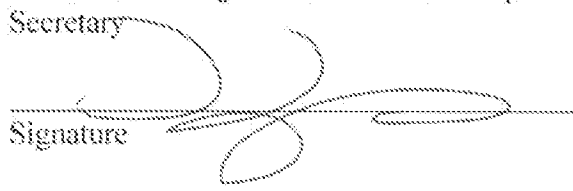
Name: Bobby Horton

Name: Kwadjo Adusei-Poku

Title: General Counsel & Corporate Secretary

Title: Chief Legal Counsel and Corporate Secretary

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Signature

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Signature 

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Date

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Date 24 July, 2022

EXHIBIT A

- 1. Application No.:** 18/192,122
Inventor: Praveen Kumar
Assignee: ARAMCO SERVICES COMPANY
Title: EXHAUST PRESSURE PULSE MANAGEMENT METHOD TO RAISE EXHAUST TEMPERATURE AND ENTHALPY IN INTERNAL COMBUSTION ENGINES

Filed: March 29, 2023
Attorney Docket No: **18733-1305001**
- 2. Application No.:** 17/462,904
Inventor: Alexander K. Voice
Andrew Baur
Xin Yu
Assignee: ARAMCO SERVICES COMPANY
Title: PROCESS FOR IMPROVING ENGINE EFFICIENCY USING A FUEL REFORMING SYSTEM

Filed: August 31, 2021
Attorney Docket No: **1873-321001**
- 3. Application No.:** 18/147,565
Inventors: Nayan Engineer
Assignee: ARAMCO SERVICES COMPANY
Title: NOVEL PURGE DEVICE FOR PASSIVE OR ACTIVE PRECHAMBERS

Filed: December 28, 2022
Attorney Docket No: 18733-1151001

4. **Application No.:** 18/066,059
 Inventor: Tianyu Gao
 Alexander Voice
 Esam Z. Hamad

 Assignee: ARAMCO SERVICES COMPANY
 Title: PROCESS FOR ONBOARD CARBON CAPTURE USING
 CO2 STRIPPING AND HEAT RECOVERY

 Filed: December 14, 2022
Attorney Docket No: 18733-1026001
5. **Application No.:** 18/059,178
 Inventor: Xin Yu
 Andrew Baur

 Assignee: ARAMCO SERVICES COMPANY
 Title: TWO-STEP CAM CONTROLLED EXHAUST VALVE
 DEACTIVATION TO OPERATE A DIVIDED EXHAUST
 BOOST SYSTEM

 Filed: November 28, 2022
Attorney Docket No: 18733-1153001
6. **Application No.:** 18/305,160
 Inventor: Nayan Engineer
 David Cleary

 Assignee: ARAMCO SERVICES COMPANY
 Title: INTEGRATED INTERNAL COMBUSTION ELECTRIC
 MOTOR (ICEM) CONCEPT FOR HYBRID AND PLUG-IN
 HYBRID VEHICLE APPLICATION

Filed: April 21, 2023

Attorney Docket No: 18733-1368001

7. **Application No.:** 18/050,342

Inventor: Xin Yu
Anqui Zhang
Andrew Baur
Nayan Engineer

Assignee: ARAMCO SERVICES COMPANY

Title: SPRAY GUIDED STRATIFICATION FOR FUELING A
PASSIVE PRE-CHAMBER

Filed: October 27, 2022

Attorney Docket No: 18733-1029001

8. **Application No.:** 18/336,768

Inventor: Ashish Dinesh Shah

Assignee: ARAMCO SERVICES COMPANY

Title: AN INTERNAL PRE-CHAMBER (IPC) IGNITION DEVICE
FOR TURBULENT JET IGNITION IN RECIPROCATING
ENGINES

Filed: June 16, 2023

Attorney Docket No: 18733-1303001

9. **Application No.:** 18/066,645

Inventor: Adnrew Baur
Xin Yu

Anqi Zhang
David Cleary

Assignee: ARAMCO SERVICES COMPANY

Title: EXHAUST SYSTEM COMBUSTION FOR RAPID
CATALYST HEATING

Filed: December 15, 2022

Attorney Docket No: 18733-1148001

10. Application No.: 18/050,330

Inventor: Xin Yu
Anqi Zhang
Yu Zhang
Andrew Baur
David Cleary

Assignee: ARAMCO SERVICES COMPANY

Title: TURBULENT JET CONTROLLED COMPRESSION
IGNITION (TJCCI) ENGINE

Filed: October 27, 2022

Attorney Docket No: 18733-1027001

11. Application No.: 18/068,644

Inventor: Andrew Baur
Xin Yu
Alexander K. Voice

Assignee: ARAMCO SERVICES COMPANY

Title: AIR PRESSURE ENERGY RECOVERY AND
AIR/FUEL/REFORMATE STORAGE DURING VEHICLE
DECELERATION FOR ACTIVE PRECHAMBER
OPERATION

Filed: December 20, 2022

Attorney Docket No: 18733-1147001

12. Application No.: 18/296,858

Inventor: Xin Yu

Assignee: ARAMCO SERVICES COMPANY

Title: A HYDROGEN OR HYDROGEN RICH GAS MIXTURE
FUELED INTERNAL COMBUSTION ENGINE USING
PREMIXED DIRECT GAS INJECTION

Filed: April 6, 2023

Attorney Docket No: 18733-1300001

13. Application No.: 17/036,359

Inventor: Alexander K. Voice
Tommy Tzanetakis

Assignee: ARAMCO SERVICES COMPANY

Title: METHOD TO GENERATE HIGHLY ACCURATE
THERMODYNAMIC AND PHYSICAL FLUID PROPERTIES
OF REAL LIGHT-DISTILLATE FUELS FOR ONE-DI

Filed: September 29, 2020

Attorney Docket No: 18733-128001

14. Application No.: 17/244,118

Inventor: Xin Yu

Assignee: ARAMCO SERVICES COMPANY

Title: METHOD AND SYSTEMS FOR A DIRECT FUEL
INJECTION INJECTOR

Filed: April 29, 2021

Attorney Docket No: 18733-295001

15. Application No.: 17/451,936

Inventor: Alexander Voice
Austin Wilks
Esam Zaki Hamad

Assignee: ARAMCO SERVICES COMPANY

Title: PROCESS FOR CAPTURING CO₂ FROM A MOBILE
SOURCE USING EXHAUST HEAT

Filed: October 22, 2021

Attorney Docket No: 18733-110001

16. Application No.: 16/998,539

Inventor: Alexander Voice
Nayan Engineer
Xin Yu

Assignee: ARAMCO SERVICES COMPANY

Title: METHOD AND SYSTEM FOR EXTENDING DILUTION
LIMIT OF A PRECHAMBER SPARK IGNITION ENGINE

Filed: August 20, 2020

Attorney Docket No: 18733-111001

17. Application No.: 17/378,352

Inventor: Xin Yu
Andrew Baur

Assignee: ARAMCO SERVICES COMPANY

Title: A SCAVENGED PRE-CHAMBER USING OXYGEN
GENERATED BY A MOLECULAR SIEVE PROCESS

Filed: July 16, 2021

Attorney Docket No: 18733-443001

18. Application No.: 17/109,760

Inventor: Xin Yu
Anqi Zhang

Assignee: ARAMCO SERVICES COMPANY

Title: PRECHAMBER DEVICE FOR INTERNAL COMBUSTION
ENGINE

Filed: December 20, 2020

Attorney Docket No: 18733-297001

19. Application No.: 17/183,859

Inventor: Nayan Engineer

Assignee: ARAMCO SERVICES COMPANY

Title: ACTIVE PRECHAMBER FOR USE IN AN INTERNAL
COMBUSTION ENGINE

Filed: February 24, 2021

Attorney Docket No: 18733-320001

20. Application No.: 17/182,691

Inventor: Xin Yu
Dave Cleary

Assignee: ARAMCO SERVICES COMPANY

Title: REHEATED RESIDUAL GAS IGNITOR

Filed: February 23, 2021

Attorney Docket No: 18733-296001

21. Application No.: 17/452,003

Inventor: Alexander Voice
Eric Latimer
Esam Zaki Hamad

Assignee: ARAMCO SERVICES COMPANY

Title: PROCESS FOR CAPTURING CO₂ FROM A MOBILE
SOURCE USING AN AMINO ACID SOLVENT

Filed: October 22, 2021

Attorney Docket No: 18733-277001

22. Application No.: 17/069,063

Inventor: Klemens Katterbauer
Alberto Marsala
Nouf Jabri

Shitong Sherry Zhu
Martin E. Poitzsch

Assignee: ARAMCO SERVICES COMPANY

Title: METHOD FOR INTELLIGENT AUTOMATIC ROCK
FRAGMENTS DEPTH DETERMINATION WHILE
DRILLING

Filed: October 13, 2020

Attorney Docket No: 18733-186001