

2022 Granted Patents

Method of Producing a Cracking Catalyst

Granted Patent: U.S. Patent 11,213,810
Grant Date: January 4, 2022
Lianhui Ding and Manal Al-Eid

Copolymer Vulcanizates for Use in Contact with Oxymethylene Ether Comprising Media

Granted Patent: U.S. Patent 11,214,670
Grant Date: January 4, 2022
Susanna Lieber and Kevin Kulbaba

Epoxidized Alpha Olefin-Based Lubricant for Water-Based Drilling Fluids

Granted Patent: U.S. Patent 11,214,724
Grant Date: January 4, 2022
Vikrant B. Wagle, Jothibasu Ramasamy, Abdullah S. Al-Yami and Khawlah A. Alanqari

Low pH-Based Oil Recovery Method for Carbonate Reservoirs

Granted Patent: U.S. Patent 11,214,730
Grant Date: January 4, 2022
Subhash C. Ayirala, Moataz Abu-Al-Saud and Ali A. Yousef

Fuel Oil Composition Containing Dissolved Polymer Waste

Granted Patent: U.S. Patent 11,214,745
Grant Date: January 4, 2022
Omer R. Koseoglu and Robert P. Hodgkins

Notching a Wellbore while Drilling

Granted Patent: U.S. Patent 11,215,011
Grant Date: January 4, 2022
Muhammad Ayub

Devices and Methods for Placement of Loss Control Slurry

Granted Patent: U.S. Patent 11,215,018
Grant Date: January 4, 2022
Md Amanullah and Turki Al-Subaie

Devices and Methods to Mitigate Pressure Buildup in an Isolated Wellbore Annulus

Granted Patent: U.S. Patent 11,215,052
Grant Date: January 4, 2022
Md Amanullah and Turki Al-Subaie

Drilling Trouble Prediction Using Stand Pipe Pressure Real-Time Estimation

Granted Patent: U.S. Patent 11,215,053
Grant Date: January 4, 2022
Salem Al-Gharbi, Ramzi Miyajan, Musab Al-Khudiri and Ali Al-Wuhaimed

Methods for Recovering Petroleum by Reducing Geological Formation Breakdown Pressures

Granted Patent: U.S. Patent 11,215,045
Grant Date: January 4, 2022
Ayman R. Al-Nakhli, Waheed S. Arshad and Guadalupe A. Buenrostro Mendoza

System for Performing Microwave Measurements of Samples under Confining Pressure

Granted Patent: U.S. Patent 11,215,568
Grant Date: January 4, 2022
Jose O. Alvarez

Seismic Processing Workflow for Orthogonal Wide Azimuth 3D Surveys

Granted Patent: U.S. Patent 11,215,725
Grant Date: January 4, 2022
Pierre Leger and Fuhao Qin

Determining Permeability Variation

Granted Patent: U.S. Patent 11,215,729
Grant Date: January 4, 2022
Hassan W. Al Hashim, Jinxun Wang, Abdulkareem M. AlSofi and Amar J. Alshehri

Robotic Subsurface Impact Protection System

Granted Patent: U.S. Patent 11,215,994
Grant Date: January 4, 2022
Iqbal Hussain and Abdullah Zubail

System and Method for 3D Printing of Fiber Reinforced Thermoplastics with Multi-Axial Reinforcement

Granted Patent: U.S. Patent 11,220,049
Grant Date: January 11, 2022
Hassan Almousa, Ihsan Al-Taie and Mohamed Bouhrara

Polymer Gel with Crosslinker and Filler

Granted Patent: U.S. Patent 11,220,581
Grant Date: January 11, 2022
Ayman Almohsin and Edreese Alsharaeh

System and Process for Steam Cracking and PFO Treatment Integrating Selective Hydrogenation and FCC

Granted Patent: U.S. Patent 11,220,637
Grant Date: January 11, 2022
Qi Xu and Raed Abudawoud

System and Process for Steam Cracking and PFO Treatment Integrating Selective Hydrogenation, FCC and Naphtha Reforming

Granted Patent: U.S. Patent 11,220,640
Grant Date: January 11, 2022
Qi Xu and Raed Abudawoud

Laser Cutting Tool

Granted Patent: U.S. Patent 11,220,876
Grant Date: January 11, 2022
Omar M. Alobaid

Induced Cavitation to Prevent Scaling on Wellbore Pumps

Granted Patent: U.S. Patent 11,220,890
Grant Date: January 11, 2022
Jinjiang Xiao

Laser Array for Heavy Hydrocarbon Heating

Granted Patent: U.S. Patent 11,220,895
Grant Date: January 11, 2022
Abrar Alabbad and Wisam Alkawai

Generating a Model for Seismic Velocities in a Subsurface Region Using Inversion with Lateral Variations

Granted Patent: U.S. Patent 11,221,425
Grant Date: January 11, 2022
Yi He, Tong W. Fei and Young S. Kim

Underwater Marine Growth Brushing Mechanism with Passive Self-Adjust for Curved Surfaces

Granted Patent: U.S. Patent 11,224,285
Grant Date: January 18, 2022
Ali Outa, Ayman Amer, Sahejad Patel, Hassane Trigui, Ameen Obedan and Fadl H. Abdel Latif

Dry Gel Synthesis of Nano-Sized ZSM-5

Granted Patent: U.S. Patent 11,225,416
Grant Date: January 18, 2022
Manal Al-Eid, Lianhui Ding and Rasha A. Al-Ghamdi

Hydrogenation of Nitrile Butadiene Rubber Latex

Granted Patent: U.S. Patent 11,225,533
Grant Date: January 18, 2022
Hui Wang and Garry Rempel

Catalyst and Process for Catalytic Steam Cracking of Heavy Distillate

Granted Patent: U.S. Patent 11,225,612
Grant Date: January 18, 2022
Emad N. Al-Shafei, Mohammed Z. Albahar, Ali N. Al-Jishi, Ki-Hyouk Choi, Mohammed Al-Jishi and Ali S. Al-Nasir

Continuous Catalytic Deasphalting Process

Granted Patent: U.S. Patent 11,225,617
Grant Date: January 18, 2022
Miao Sun, Qi Xu, Zhonglin Zhang and Soheli K. Shaikh

Composite Dual Channel Drillpipes and Method of Manufacture

Granted Patent: U.S. Patent 11,225,843
Grant Date: January 18, 2022
Graham R. Hitchcock

Cutting a Tubular in a Wellbore

Granted Patent: U.S. Patent 11,225,850
Grant Date: January 18, 2022
Ahmed A. Al-Mousa, Ahmed A. Al-Ramadhan and Qadir D. Looni

Process Integration for Natural Gas Liquid Recovery

Granted Patent: U.S. Patent 11,226,154
Grant Date: January 18, 2022
Mahmoud B. Noureldin, Akram H. Kamel and Abdulaziz A. Al-Najjar

Cement Additives

Granted Patent: U.S. Patent 11,230,497
Grant Date: January 25, 2022
Hamsukh A. Patel, Peter J. Boul and Carl J. Thaeplitz

End-Group Isomerization of Poly(Alkylene Carbonate) Polymers

Granted Patent: U.S. Patent 11,230,625
Grant Date: January 25, 2022
James Egan, Chris A. Simoneau and Jay J. Farmer

Modified Graphene Shale Inhibitors

Granted Patent: U.S. Patent 11,230,637
Grant Date: January 25, 2022
Tawfik A. Saleh, Mohammed K. Al-Arfaj and Azeem Rana

Reversible Amino Gel Compositions, Methods, and Use

Granted Patent: U.S. Patent 11,250,658

Grant Date: January 25, 2022

Peter J. Boul, B. Raghava Reddy, Matthew Hilfiger, Carl J. Thaeplitz and Diana Rasner

Propping Open Hydraulic Fractures

Granted Patent: U.S. Patent 11,250,661

Grant Date: January 25, 2022

Rajendra A. Kalgaonkar, Nour O. Baqader, Ahmed M. Gomaa and Khalid Alnoaimi

Processes for Producing Petrochemical Products that Utilize Fluid Catalytic Cracking

Granted Patent: U.S. Patent 11,250,672

Grant Date: January 25, 2022

Mansour A. Al-Herz, Abdennour Bourane, Ali Al-Jawad and Alberto L. Ballesteros

Processes for Producing Petrochemical Products that Utilize Fluid Catalytic Cracking of a Lesser Boiling Point Fraction with Steam

Granted Patent: U.S. Patent 11,250,673

Grant Date: January 25, 2022

Musaed S. Al-Ghrami, Aaron Akah and Abdennour Bourane

Upgrading of Heavy Oil for Steam Cracking Process

Granted Patent: U.S. Patent 11,250,675

Grant Date: January 25, 2022

Ki-Hyouk Choi, Bander M. Alotaibi, Mazin M. Fathi and Muneef F. Alqarzouh

Processes for Producing Petrochemical Products from Crude Oil

Granted Patent: U.S. Patent 11,250,676

Grant Date: January 25, 2022

Omer R. Koseoglu

Setting and Unsetting a Production Packer

Granted Patent: U.S. Patent 11,250,904

Grant Date: January 25, 2022

Ahmed A. Al-Mousa, Ahmed A. Al-Ramadhan and Qadir D. Looni

Systems and Methods for Controlled Release of Sensor Swarms Downhole

Granted Patent: U.S. Patent 11,250,918

Grant Date: January 25, 2022

Chinthaka P. Gooneratne, Jothibasu Ramasamy and Bodong Li

Tracers for Petroleum Reservoirs

Granted Patent: U.S. Patent 11,250,919

Grant Date: January 25, 2022

Jason R. Cox, Sehoon Chang, Rena Shi and Hooisweng Ow

Process Integration for Natural Gas Liquid Recovery

Granted Patent: U.S. Patent 11,251,226

Grant Date: January 25, 2022

Mahmoud B. Noureldin, Akram H. Kamel and Abdulaziz A. Al-Najjar

Process Integration for Natural Gas Liquid Recovery

Granted Patent: U.S. Patent 11,251,227

Grant Date: January 25, 2022

Mahmoud B. Noureldin, Akram H. Kamel and Abdulaziz A. Al-Najjar

Apparatus and Methods of Evaluating Rock Properties while Drilling Using Acoustic Sensors Installed in the Drilling Fluid Circulation System of a Drilling Rig

Granted Patent: U.S. Patent 11,251,512

Grant Date: January 25, 2022

Yunlai Yang

Dynamic Hydrocarbon Well Skin Modeling and Operation

Granted Patent: U.S. Patent 11,251,520

Grant Date: January 25, 2022

Jawad Zahur and Mohammed Mugharbil

Multi-Pollutant Exhaust Treatment Using Seawater for Marine Applications

Granted Patent: U.S. Patent 11,251,281

Grant Date: February 1, 2022

Christos M. Kalamaras and Esam Z. Hamad

Controlling Flow of Black Powder in Hydrocarbon Pipelines

Granted Patent: U.S. Patent 11,255,358

Grant Date: February 1, 2022

James C. Hassell

Method of Testing ERW Pipe Weld Seam for Susceptibility to Hydrogen Embrittlement

Granted Patent: U.S. Patent 11,255,427

Grant Date: February 1, 2022

Saad M. Al-Muaili, Mohammed A. Al-Anezi and Khalid A. Ba Bakri

Underwater Pipeline Inspection Crawler

Granted Patent: U.S. Patent 11,255,472

Grant Date: February 1, 2022

Fadl H. Abdel Latif, Ali Outa, Ammar Al-Nahwi and Ihsan Al-Taie

Automation Methods for UAV Perching on Pipes

Granted Patent: U.S. Patent 11,255,825

Grant Date: February 1, 2022

Fadl H. Abdel Latif, Mohamed Abdelkader and Jeff S. Shamma

Synthetic Source Rocks

Granted Patent: U.S. Patent 11,256,020

Grant Date: February 1, 2022

Mohammad H. Haque, Yanhui Han, Younane N. Abouleiman, Katherine L. Hull and David Jacobi

Integrated Process for the Production of Isononanol and Gasoline and Diesel Blending Components

Granted Patent: U.S. Patent 11,256,051

Grant Date: February 1, 2022

Omer R. Koseoglu, Sohel Shaikh, Zhonglin Zhang and Salem Subayee

Selective Cyclocarbonylative Coupling of 2-Iodophenols with Terminal Alkynes Catalyzed by Bridged Bis(NHC)Pd(II)Br₂ Catalysts

Granted Patent: U.S. Patent 11,256,118

Grant Date: February 1, 2022

Bassam El Ali, Waseem Mansour and Mohammed Fettouhi

Corrosion-Indicating Materials and Methods of Making and Using the Same

Granted Patent: U.S. Patent 11,256,195

Grant Date: February 1, 2022

Aziz Fihri, Mohamed Bouhrara, Haleema Alamri, Enrico Bovero and Bashayer Mishari

Method of Sand Consolidation in Petroleum Reservoirs

Granted Patent: U.S. Patent 11,256,263

Grant Date: February 1, 2022

Pratyush Singh, Abdullah S. Al-Yami and Vikrant B. Wagle

Methods and Compositions Using a Combination of Zwitterionic Surfactants and Gemini Surfactants as Diversion Agents

Granted Patent: U.S. Patent 11,256,264

Grant Date: February 1, 2022

Rajendra A. Kalgaonkar, Khalid Alnoaimi, Nour Baqader, Nisar Ullah and Muhammed Mansha

Cementitious Print Head, 3D Printing Architecture, and Cementitious Printing Methodology

Granted Patent: U.S. Patent 11,256,517

Grant Date: February 1, 2022

Rami Bamagain, Bandar A. Fadhel, Aqil Jamal, Issam T. Amr, Ahmad O. Al-Khowaiter and Ali S. Al Hunaidy

Lost Circulation Material Having Tentacles

Granted Patent: U.S. Patent 11,256,559

Grant Date: February 1, 2022

Md Amanullah

Autonomous Downhole Tool

Granted Patent: U.S. Patent 11,256,565

Grant Date: February 1, 2022

Murtadha J. AlTammar

Powered Articulated Magnetic Fishing Tool

Granted Patent: U.S. Patent 11,256,568

Grant Date: February 1, 2022

Shrikant Tiwari and Opeyemi Adewuya

Methods for Improving Oil Recovery within a Subterranean Formation

Granted Patent: U.S. Patent 11,256,580

Grant Date: February 1, 2022

Zuhair AlYousif and Ali A. Al-Taq

Curing a Lost Circulation Zone in a Wellbore

Granted Patent: U.S. Patent 11,256,581

Grant Date: February 1, 2022

Saad S. Al-Shammari

Wellbore Cement Having Polymer Capsule Shells

Granted Patent: U.S. Patent 11,256,582

Grant Date: February 1, 2022

Elizabeth Q. Contreras

Electromagnetic Wellbore Clean Out Tool

Granted Patent: U.S. Patent 11,256,585

Grant Date: February 1, 2022

Shrikant Tiwari and Opeyemi Adewuya

Automated Real-Time Transport Ratio Calculation

Granted Patent: U.S. Patent 11,256,602

Grant Date: February 1, 2022

Mohammed M. Al-Rubaii, Abdullah S. Al-Yami and Salem Al-Gharbi

Internal Combustion Engines Having Pre-Ignition Mitigation Controls and Methods for their Operation

Granted Patent: U.S. Patent 11,256,698

Grant Date: February 1, 2022

Eshan Singh, Kai J. Morganti and Robert W. Dibble

Process Integration for Natural Gas Liquid Recovery

Granted Patent: U.S. Patent 11,256,941

Grant Date: February 1, 2022

Mahmoud B. Noureldin, Akram H. Kameland and Abdulaziz A. Al-Najjar

Clay Detection and Quantification Using Downhole Low Frequency Electromagnetic Measurements

Granted Patent: U.S. Patent 11,257,292

Grant Date: February 1, 2022

Shouxiang M. Ma, Ping Zhang, Wael Abdallah and Chengbing Liu

Method for Intelligent Automatic Rock Fragments Depth Determination while Drilling

Granted Patent: U.S. Patent 11,257,295

Grant Date: February 1, 2022

Klemens Katterbauer, Alberto F. Marsala, Nouf Jabri, Sherry S. Zhu and Martin Poitzsch

Nanocomposite Cathode Materials for Use in Batteries

Granted Patent: U.S. Patent 11,259,466

Grant Date: February 1, 2022

Muhammad Arsalan, Edreese Alsharaeh, Faheem Ahmed and Yazeed F. AlDosari

Ignition Method of Fuel Reformer Using Partial Oxidation Reaction of the Fuel for SOFC Fuel Cell Startup

Granted Patent: U.S. Patent 11,259,479

Grant Date: February 1, 2022

Sai P. Katikaneni, Joongmyeon Bae, Jiwoo Oh, Minseok Bae and Dongyeon Kim

Controlling Flow of Black Powder in Hydrocarbon Pipelines

Granted Patent: U.S. Patent 11,241,698

Grant Date: February 8, 2022

James C. Hassell

Triaxial Centrifuge Apparatus with Electrical Sensor, Acoustic Sensor, and X-ray Instrument

Granted Patent: U.S. Patent 11,241,701

Grant Date: February 8, 2022

Mustafa Hakimuddin

Catalyst Carrier for Steam Reforming Processes

Granted Patent: U.S. Patent 11,242,245

Grant Date: February 8, 2022

Rami Bamagain, Bandar A. Fadhel, Bandar Solami and Mohammed A. Albuai

Catalyst Carrier for Autothermal Reforming Processes

Granted Patent: U.S. Patent 11,242,246

Grant Date: February 8, 2022

Rami Bamagain, Bandar A. Fadhel, Bandar Solami and Mohammed A. Albuai

Multiple-Stage Catalyst System for Self-Metathesis with Controlled Isomerization and Cracking

Granted Patent: U.S. Patent 11,242,297

Grant Date: February 8, 2022

Noor A. Sulais, Faisal H. Alshafei, Munir D. Khokhar, Mohammed R. Alalouni and Sohel Shaikh

Catalyst Systems that Include Metal Oxide Co-Catalysts for the Production of Propylene

Granted Patent: U.S. Patent 11,242,299

Grant Date: February 8, 2022

Munir D. Khokhar, Mohammed R. Alalouni, Noor A. Sulais, Brian S. Hanna and Sohel Shaikh

Catalyst Systems that Include Metal Co-Catalysts for the Production of Propylene

Granted Patent: U.S. Patent 11,242,300

Grant Date: February 8, 2022

Munir D. Khokhar, Mohammed R. Alalouni, Noor A. Sulais, Brian S. Hanna and Sohel Shaikh

Charged Composite Materials, Methods of Synthesizing, and Methods of Use

Granted Patent: U.S. Patent 11,242,478

Grant Date: February 8, 2022

Ashok Santra, Hasmukh Patel and Carl J. Thaemlitz

Methods for Processing Crude Oils to Form Light Olefins

Granted Patent: U.S. Patent 11,242,495

Grant Date: February 8, 2022

Qi Xu, Aaron Akah and Musaed S. Al-Ghrami

Rotational Continuous Circulation Tool

Granted Patent: U.S. Patent 11,242,717

Grant Date: February 8, 2022

Mohammad S. Al-Badran and Chinthaka P. Gooneratne

Nanoparticle-Based Shear Thickening Materials

Granted Patent: U.S. Patent 11,242,728

Grant Date: February 8, 2022

Abeer M. Al-Olayan, Alfredo Alexander-Katz and Jason R. Cox

Hydrocarbon Flow Line Corrosion Inhibitor Overpressure Protection

Granted Patent: U.S. Patent 11,242,750

Grant Date: February 8, 2022

Fathi Bugubaia, Khalid Ghamdi, Mohammed Khunaizi, Rashid Hajri, Khalid Subaie and Zayed Qahtani

Methods and Systems to Detect an Untethered Device at a Wellhead

Granted Patent: U.S. Patent 11,242,745

Grant Date: February 8, 2022

Huseyin R. Seren and Max Deffenbaugh

Downhole Probe Tool

Granted Patent: U.S. Patent 11,242,747

Grant Date: February 8, 2022

Bandar S. Al-Malki, Faisal M. Sarwi and Ismail A. Adebiji

Liner Installation with Inflatable Packer

Granted Patent: U.S. Patent 11,242,751

Grant Date: February 8, 2022

Muhammad Arsalan, Henrik W. Clayborough, Jarl A. Fellinghaug and Brett W. Bouldin

Removing Debris from a Hydrocarbon Fluid

Granted Patent: U.S. Patent 11,242,758

Grant Date: February 8, 2022

Aslan Bulekbay, Mustafa Al-Zaid, Manaf Al-Aithan and Khalid Al-Hamed

Process to Capture SO_x Onboard Vehicles and Ships

Granted Patent: U.S. Patent 11,242,785

Grant Date: February 8, 2022

Maryam Al-Taher, Esam Z. Hamad and Remi Mahfouz

Tool-less Spring Attachment to C-Channel and Method of Using Same

Granted Patent: U.S. Patent 11,242,880

Grant Date: February 8, 2022

Brian J. Parrott, Ali Shehri and Pablo C. Zanini

Automated System and Methods for Adaptive Robust Denoising of Large-Scale Seismic Data Sets

Granted Patent: U.S. Patent 11,243,522

Grant Date: February 8, 2022

Ke Chen and Weichang Li

Systems, Methods, and Apparatuses for Ensuring Worker Safety

Granted Patent: U.S. Patent 11,247,080

Grant Date: February 15, 2022

Hussain A. Al-Rasheed and Abdullah Al-Zahrani

Zeolite with Encapsulated Platinum

Granted Patent: U.S. Patent 11,247,196

Grant Date: February 15, 2022

Donya Alsewdan, Lianhui Ding and Manal Al-Eid

Base Oil Production via Dry Reforming

Granted Patent: U.S. Patent 11,247,897

Grant Date: February 15, 2022

Bandar H. Alsolami and Aqil Jamal

Catalyst Carrier for Bi-Reforming Processes

Granted Patent: U.S. Patent 11,247,898

Grant Date: February 15, 2022

Mohammed A. Albuai, Rami Bamagain, Bandar A. Fadhel and Bandar Solami

Sour Water Treatment

Granted Patent: U.S. Patent 11,247,919

Grant Date: February 15, 2022

Guillaume Raynel

Manufacturing Polymers of Thiophene, Benzothiophene, and their Alkylated Derivatives

Granted Patent: U.S. Patent 11,248,073

Grant Date: February 15, 2022

Abdullah R. Al-Malki

Color-Stable Nitrile Rubbers*Granted Patent: U.S. Patent 11,248,078**Grant Date: February 15, 2022*

Sven Brandau and Andreas Kaiser

Corrosion-Resistant Coatings and Methods of Making the Same*Granted Patent: U.S. Patent 11,248,099**Grant Date: February 15, 2022*

Enrico Bovero, Gasan Alabedi and Aziz Fihri

Emulsifier Compositions for Invert Emulsion Fluids and Methods of Using the Same*Granted Patent: U.S. Patent 11,248,157**Grant Date: February 15, 2022*

Vikrant B. Wagle and Abdullah S. Al-Yami

Enhanced High Temperature Crosslinked Fracturing Fluids*Granted Patent: U.S. Patent 11,248,164**Grant Date: February 15, 2022*

Leiming Li and Feng Liang

Process and System for Catalytic Conversion of Aromatic Complex Bottoms*Granted Patent: U.S. Patent 11,248,175**Grant Date: February 15, 2022*

Robert P. Hodgkins, Omer R. Koseoglu and Frederick Adam

Process to Remove Asphaltene from Heavy Oil by Solvent*Granted Patent: U.S. Patent 11,248,174**Grant Date: February 15, 2022*

Mohammad F. Aljishi and Ki-Hyook Choi

Low-Sulfur Aromatic-Rich Fuel Oil Blending Component*Granted Patent: U.S. Patent 11,248,176**Grant Date: February 15, 2022*

Omer R. Koseoglu and Robert P. Hodgkins

Supercritical Water Process Integrated with Visbreaker*Granted Patent: U.S. Patent 11,248,180**Grant Date: February 15, 2022*

Ki-Hyook Choi, Mazin M. Fathi, Vinod Ramaseshan and Mohamad H. Alabisi

Method of Producing a Fuel Additive*Granted Patent: U.S. Patent 11,248,181**Grant Date: February 15, 2022*

Guillermo Leal, Kareemuddin M. Shaik, Hireen Shethna, Naif M. Al-Otaibi, Mohammed B. Ansari and Zhonglin Zhang

Laser Tool with Purging Head*Granted Patent: U.S. Patent 11,248,426**Grant Date: February 15, 2022*

Sameeh I. Batarseh and John D. Reece II

Magnetic Fishing Tool and Use Thereof in Fishing Operations*Granted Patent: U.S. Patent 11,248,451**Grant Date: February 15, 2022*

Abdullah S. Al-Dossary

Plugs and Related Methods of Performing Completion Operations in Oil and Gas Applications*Granted Patent: U.S. Patent 11,248,459**Grant Date: February 15, 2022*

Hamza F. Tedjani

Using Electromagnetic Waves to Remove Near Wellbore Damages in a Hydrocarbon Reservoir*Granted Patent: U.S. Patent 11,248,446**Grant Date: February 15, 2022*

Jin-Hong Chen, Hui-Hai Liu, Feng Liang and Rajesh K. Saini

Despiking Reservoir Properties*Granted Patent: U.S. Patent 11,248,448**Grant Date: February 15, 2022*

Xingquan Zhang and Muhammad Ashraf

Electronic Submersible Pumps for Oil and Gas Applications*Granted Patent: U.S. Patent 11,248,454**Grant Date: February 15, 2022*

Najeeb Abdulrahman and Suliman M. Azzouni

Acoustic Geosteering in Directional Drilling*Granted Patent: U.S. Patent 11,248,455**Grant Date: February 15, 2022*

Alberto F. Marsala and Michael A. Jervis

Process Integration for Natural Gas Liquid Recovery*Granted Patent: U.S. Patent 11,248,859**Grant Date: February 15, 2022*

Mahmoud B. Noureldin, Akram H. Kamel and Abdulaziz A. Al-Najjar

Process Integration for Natural Gas Liquid Recovery*Granted Patent: U.S. Patent 11,248,840**Grant Date: February 15, 2022*

Mahmoud B. Noureldin, Akram H. Kamel and Abdulaziz A. Al-Najjar

Method and Apparatus for Measuring Slip Velocity of Drill Cuttings Obtained from Subsurface Formations*Granted Patent: U.S. Patent 11,248,999**Grant Date: February 15, 2022*

Alexey Alexeyenko

Determination of Scanning Loops of Capillary Pressure and Relative Permeability Curves and Wettability Distribution of Rock Samples*Granted Patent: U.S. Patent 11,249,001**Grant Date: February 15, 2022*

Quan Chen, Sultan Enezi and Ali A. Al-Yousef

Quantifying Organic and Inorganic Sulfur Components in Petroleum Material*Granted Patent: U.S. Patent 11,249,064**Grant Date: February 15, 2022*

Harry D. Oduro

Testing Petro-Physical Properties Using a Triaxial Pressure Centrifuge Apparatus*Granted Patent: U.S. Patent 11,249,065**Grant Date: February 15, 2022*

Mustafa Hakimuddin

Systems and Methods for Determining a Likelihood of Striking Subsurface Geohazards Using Coda Wave Trains*Granted Patent: U.S. Patent 11,249,209**Grant Date: February 15, 2022*

Yi Luo, Mohammed Mubarak and Tong Fei

Noise Suppression of Seafloor Geophone Seismic Data*Granted Patent: U.S. Patent 11,249,214**Grant Date: February 15, 2022*

Woodon Jeong and Constantinos Tsingas

Multi-Vector Engineering Methods and Apparatus for Isolated Process Control Systems*Granted Patent: U.S. Patent 11,249,465**Grant Date: February 15, 2022*

Fouad M. Al-Khabbaz and Osama Bahwal

Systems for Desalinating Aqueous Compositions through Hetero-Azeotropic Distillation*Granted Patent: U.S. Patent 11,255,792**Grant Date: February 22, 2022*

Guillaume R. Jean-François Raynel, Regis D. Alain Vilagines and Duaa J. Al Saeed

Direct Oxidation of Hydrogen Sulfide in a Hydroprocessing Recycle Gas Stream with Hydrogen Purification*Granted Patent: U.S. Patent 11,255,816**Grant Date: February 22, 2022*

Omer R. Koseoglu

Production of Thin Film Composite Hollow Fiber Membranes*Granted Patent: U.S. Patent 11,255,819**Grant Date: February 22, 2022*

Seung-Hak Choi

Systems and Processes for Accelerated Carbonation Curing of Pre-Cast Cementitious Structures*Granted Patent: U.S. Patent 11,254,028**Grant Date: February 22, 2022*

Aqil Jamal, Bandar Fadhel and Issam T. Amr

Processes and Systems for Treating Sour Water to Remove Sulfide Compounds*Granted Patent: U.S. Patent 11,254,592**Grant Date: February 22, 2022*

Guillaume Raynel

Vulcanized Rubber and Date Tree-Based Lost Circulation Material (LCM) Blend*Granted Patent: U.S. Patent 11,254,851**Grant Date: February 22, 2022*

Mohammed K. Al-Arfaj, Raed Al-Ouhali, Md Amanullah and Mohammed Al-Otaibi

Sphere-Shaped Lost Circulation Material (LCM) Having Straight Protrusions*Granted Patent: U.S. Patent 11,254,855**Grant Date: February 22, 2022*

Raed A. Alouhali, Timothy E. Moellendick, Md Amanullah, Mohammed K. Al-Arfaj and Mohammed Al Rashead

Surfactant Mixtures Used during Chemical Enhanced Oil Recovery and Methods of Use Thereof*Granted Patent: U.S. Patent 11,254,855**Grant Date: February 22, 2022*

Limin Xu, Ming Han, Alhasan Fuseni and Dongqing Cao

Stabilized Nanoparticle Compositions Comprising Ions

Granted Patent: U.S. Patent 11,254,857

Grant Date: February 22, 2022

Jason R. Cox, Hooisweng Ow and Dmitry Kosynkin

Stabilized Foams with Tailored Water Chemistry for Mobility Control in Gas Injection Processes

Granted Patent: U.S. Patent 11,254,858

Grant Date: February 22, 2022

Zuhair AlYousif, Subhash C. Ayirala and Mustafa Alkhowaildi

Non-solvent Crude Oil Heavy Oil Stream De-asphalting Process

Granted Patent: U.S. Patent 11,254,879

Grant Date: February 22, 2022

Miao Sun, Zhonglin Zhang and Sohel K. Shaikh

Drilling Boreholes with a Hybrid Bit

Granted Patent: U.S. Patent 11,255,128

Grant Date: February 22, 2022

Atallah N. Harbi and Abdulrahman Al-Eid

Sensing Drill Bit Wear under Downhole Conditions

Granted Patent: U.S. Patent 11,255,150

Grant Date: February 22, 2022

Timothy E. Moellendick, Guodong (David) Zhan and Abdulwahab S. Al-Johar

Harness for Intelligent Completions

Granted Patent: U.S. Patent 11,255,153

Grant Date: February 22, 2022

Robert J. Turner and Brett W. Bouldin

Collecting Junk in a Wellbore

Granted Patent: U.S. Patent 11,255,150

Grant Date: February 22, 2022

Talal Hadi and Abdullrohman Al-Arfaj

Unblocking Wellbores

Granted Patent: U.S. Patent 11,255,160

Grant Date: February 22, 2022

Abdulaziz S. Al-Qasim, Amer Al-Anazi and Muataz Subhi

Self-Propelled Plunger for Artificial Lift

Granted Patent: U.S. Patent 11,255,170

Grant Date: February 22, 2022

Amr M. Zahran

Hybrid Photonic-Pulsed Fracturing Tool and Related Methods

Granted Patent: U.S. Patent 11,255,172

Grant Date: February 22, 2022

Sameeh I. Batarseh, Wisam Assiri and Abdallah Al Harith

Determining a Subterranean Formation Breakdown Pressure

Granted Patent: U.S. Patent 11,255,184

Grant Date: February 22, 2022

Kaiming Xia and Yufeng Cui

Logging Tool with 4D Printed Sensing System

Granted Patent: U.S. Patent 11,255,188

Grant Date: February 22, 2022

Guodong (David) Zhan, Chinthaka P. Gooneratne and Bandar S. Malki

Optomechanical Part for Parabolic Mirror Fine Rotation and On-Axis Linear Positioning

Granted Patent: U.S. Patent 11,255,788

Grant Date: February 22, 2022

Ezzat M. Hegazi, Victor Cunningham, Christoph Stamm and Christof Brunner

Flow Management Systems and Related Methods for Oil and Gas Applications

Granted Patent: U.S. Patent 11,256,275

Grant Date: February 22, 2022

Maher M. Shariff and Taras Y. Makogon

Securing Database Backups with Unique Global Identifier

Granted Patent: U.S. Patent 11,256,824

Grant Date: February 22, 2022

Emad M. Al-Mousa

Email Attack Detection and Forensics

Granted Patent: U.S. Patent 11,258,811

Grant Date: February 22, 2022

Timothy Hall

Thin Film Composite Hollow Fiber Membranes Fabrication Systems

Granted Patent: U.S. Patent 11,260,551

Grant Date: March 1, 2022

Fahd I. Alghunaimi, Young Choi and Regis Vilagines

Systems and Methods for Treating Viscous Media

Granted Patent: U.S. Patent 11,260,555

Grant Date: March 1, 2022

Rami Bamagain, Bandar A. Fadhel and Ahmad D. Hammad

Catalyst Testing Process and Apparatus

Granted Patent: U.S. Patent 11,260,556

Grant Date: March 1, 2022

Omer R. Koseoglu

Systems and Methods for Preparing Nano-Sized Crystals of BEA Zeolite with Metal Oxide for Hydrocarbon Conversions

Granted Patent: U.S. Patent 11,261,098

Grant Date: March 1, 2022

Emad N. Al-Shafei, Oki Muraza, Mohammed Hassan, Ki-Hyouk Choi, Ali S. Al-Nasir and Zain H. Yamani

Methods of Suspending Weighting Agents in a Drilling Fluid

Granted Patent: U.S. Patent 11,261,565

Grant Date: March 1, 2022

Ashok Santra, Peter J. Boul and Carl J. Thaemlitz

Spacer Fluids and Cement Slurries that Include Surfactants

Granted Patent: U.S. Patent 11,261,564

Grant Date: March 1, 2022

Abdullah S. Al-Yami, Vikrant B. Wagle and Hussain Al-Bahrani

Polymer-Sand Nanocomposite for Water Shutoff

Granted Patent: U.S. Patent 11,261,567

Grant Date: March 1, 2022

Ayman Almohsin, Edreese Alshareah and Mohammed A. Bataweel

Silicon Dioxide Janus Nanosheets Relative Permeability Modifier (RPM) for Reducing Subterranean Formation Water Permeability in Carbonate and Sandstone Formations

Granted Patent: U.S. Patent 11,261,586

Grant Date: March 1, 2022

Jin Huang, Wengang Li and Feng Liang

Conversion of MEROX Process Byproducts to Useful Products in an Integrated Refinery Process

Granted Patent: U.S. Patent 11,261,586

Grant Date: March 1, 2022

Omer R. Koseoglu and Robert P. Hodgkins

Fuel Oil Conversion

Granted Patent: U.S. Patent 11,261,587

Grant Date: March 1, 2022

Eric Wei, Vinod Ramaseshan and Donald Saunders

Conversion of Crude Oil to Aromatic and Olefinic Petrochemicals

Granted Patent: U.S. Patent 11,261,588

Grant Date: March 1, 2022

Thamer A. Mohammad and Raed Abudawoud

Device, Assembly, and Method for Releasing Cutters on the Fly

Granted Patent: U.S. Patent 11,261,669

Grant Date: March 1, 2022

Hussien A. Al-Zaki

Deploying Wellbore Patch for Mitigating Lost Circulation

Granted Patent: U.S. Patent 11,261,678

Grant Date: March 1, 2022

Bodong Li, Chinthaka P. Gooneratne and Timothy E. Moellendick

Method and Apparatus to Cure Drilling Losses with an Electrically Triggered Lost Circulation Material

Granted Patent: U.S. Patent 11,261,679

Grant Date: March 1, 2022

Ammar Alali, Amjad Shaarawi, Abeer Olayan, Haitham Hamed and Abdulwahab Aljohar

Method and Apparatus for Identifying and Remediating Loss Circulation Zone

Granted Patent: U.S. Patent 11,261,692

Grant Date: March 1, 2022

Bodong Li, Chinthaka P. Gooneratne, Guodong (David) Zhan and Timothy E. Moellendick

Systems and Methods to Remove and Reapply Sealant on the Annular Side of Casing

Granted Patent: U.S. Patent 11,261,695

Grant Date: March 1, 2022

Krzysztof K. Machocki

Downhole Tool Actuators and Related Methods for Oil and Gas Applications

Granted Patent: U.S. Patent 11,261,702

Grant Date: March 1, 2022

Krzysztof K. Machocki

Systems and Methods for Treating Fluids in Oil Field Facilities

Granted Patent: U.S. Patent 11,261,705
Grant Date: March 1, 2022
 Qiwei Wang and Waleed N. Al-Nasser

Method and System for Well Assignment in a Reservoir Simulation Based on Well Activity

Granted Patent: U.S. Patent 11,261,707
Grant Date: March 1, 2022
 Suha N. Kayum, Marcin Rogowski and Michel Cancelliere

Well Perforating Using Electrical Discharge Machining

Granted Patent: U.S. Patent 11,261,710
Grant Date: March 1, 2022
 Abdulrahman A. Al Mulhem

System and Method for Automated Well Annulus Pressure Control

Granted Patent: U.S. Patent 11,261,712
Grant Date: March 1, 2022
 Abdullah I. Al-Murairki

Jetting Plunger for Plunger Lift Applications

Granted Patent: U.S. Patent 11,261,713
Grant Date: March 1, 2022
 Amr M. Zahran

Methodology to Maximize Net Reservoir Contact for Underbalanced Coiled Tubing Drilling Wells

Granted Patent: U.S. Patent 11,261,720
Grant Date: March 1, 2022
 Ahmad Azly B. Abdulaziz and Ferney M. Sierra

Safety Integrity Level (SIL) 3 High-Integrity Protection System (HIPS) Fully Functional Test Configuration for Hydrocarbon (Gas) Production Systems

Granted Patent: U.S. Patent 11,261,726
Grant Date: March 1, 2022
 Pedro A. Mujica, Kiran Patel, Herman Cipriano and Chan Miller

Reservoir Logging and Pressure Measurement for Multi-Reservoir Wells

Granted Patent: U.S. Patent 11,261,727
Grant Date: March 1, 2022
 Muhammad Munir and Nawaf I. Sayed-Akram

Intersecting an Existing Wellbore

Granted Patent: U.S. Patent 11,261,728
Grant Date: March 1, 2022
 Jassim M. Al-Mulla

Wellbore Failure Analysis and Assessment

Granted Patent: U.S. Patent 11,261,730
Grant Date: March 1, 2022
 Hussain Al-Bahrani, Osman Hamid and Adel Al-Qahtani

Energy Real-Time Optimizer for Steam and Condensation Balance Using GAMS

Granted Patent: U.S. Patent 11,261,761
Grant Date: March 1, 2022
 Youngghee Jang

Gas-Charged Unloading Plunger

Granted Patent: U.S. Patent 11,261,859
Grant Date: March 1, 2022
 Amr M. Zahran

Process Integration for Natural Gas Liquid Recovery

Granted Patent: U.S. Patent 11,262,125
Grant Date: March 1, 2022
 Mahmoud B. Noureldin, Akram H. Kamel and Abdulaziz A. Al-Najjar

Systems and Methods for Deriving Field Prover Base Volume from Master Prover Base Volume

Granted Patent: U.S. Patent 11,262,228
Grant Date: March 1, 2022
 Chandulal N. Bhatasana

Screening Demulsifiers for Crude Oil-Water Emulsions

Granted Patent: U.S. Patent 11,262,281
Grant Date: March 1, 2022
 Sunil L. Kokal, Zuhair AlYousif and Modiu L. Sanni

Analyzing Drilling Fluid Rheology at a Drilling Site

Granted Patent: U.S. Patent 11,262,282
Grant Date: March 1, 2022
 Hermann F. Spoerker

Bisection Numerical Algorithm Coupled with Pressure Deviation Method to Determine the Size and Location of a Leak in a Pipeline

Granted Patent: U.S. Patent 11,263,374
Grant Date: March 1, 2022
 Mutaz Al-Daas

Purification of Gases Containing Sulfur Compounds

Granted Patent: U.S. Patent 11,266,946
Grant Date: March 8, 2022
 Subindas Mohandas and Saeed Salah

Rotating Machine Coupling Hub Pulling Device

Granted Patent: U.S. Patent 11,267,087
Grant Date: March 8, 2022
 Nishan X. Chammany Thomas and Moath A. Al-Haykan

Catalytic Hydrodearylation of Heavy Aromatic Streams Containing Dissolved Hydrogen with Fractionation

Granted Patent: U.S. Patent 11,267,769
Grant Date: March 8, 2022
 Omer R. Koseoglu, Robert P. Hodgkins, Bruce R. Beadle and Vinod Ramaseshan

Composition and Method of Manufacturing of Whole Date Palm Seed Lost Circulation Material (LCM)

Granted Patent: U.S. Patent 11,268,011
Grant Date: March 8, 2022
 Md Amanullah and Turki Al-Subaie

High Temperature Treatment Fluids with Nano-Crosslinkers

Granted Patent: U.S. Patent 11,268,016
Grant Date: March 8, 2022
 Ghaithan Al-Muntasheri, Feng Liang, Hooisweng Ow, Jason Cox and Martin E. Poitzsch

Systems, Methods, and Compositions for Reservoir Stimulation Treatment Diversion Using Thermochemicals

Granted Patent: U.S. Patent 11,268,017
Grant Date: March 8, 2022
 Ayman R. Al-Nakhli and Mohamed N. Mahmoud

Process and System for Hydrodearylation and Hydrogenation of Aromatic Complex Bottoms

Granted Patent: U.S. Patent 11,268,037
Grant Date: March 8, 2022
 Omer R. Koseoglu and Robert P. Hodgkins

Directional Drilling

Granted Patent: U.S. Patent 11,268,325
Grant Date: March 8, 2022
 Atallah N. Alharbi

Wellbore Conditioning with a Reamer on a Wireline

Granted Patent: U.S. Patent 11,268,327
Grant Date: March 8, 2022
 Mutaz S. Al-Ghamdi and Fahad M. Al-Yami

Wired Swivel in Wellbore Drilling

Granted Patent: U.S. Patent 11,268,330
Grant Date: March 8, 2022
 Ahmed A. Al-Mousa, Ahmed A. Al-Ramadhan and Qadir D. Looni

Controlling Fluid Volume Variations of a Reservoir under Production

Granted Patent: U.S. Patent 11,268,352
Grant Date: March 8, 2022
 Philippe Nivlet

Smart System for Selection of Wellbore Drilling Fluid Loss Circulation Material

Granted Patent: U.S. Patent 11,268,369
Grant Date: March 8, 2022
 Hugo Cuellar, Rafael Pino Rojas, Victor Costa De Oliveira and Khaled Abouelnaaj

Estimating Natural Fracture Properties Based on Production from Hydraulically Fractured Wells

Granted Patent: U.S. Patent 11,268,373
Grant Date: March 8, 2022
 Chao Liu and Younane N. Abousleiman

Kick Detection Using Logging while Drilling

Granted Patent: U.S. Patent 11,268,380
Grant Date: March 8, 2022
 Zainab A. Alsaihati, Bader Otaibi, Abdullah S. Al-Yami and Salem Algharbi

Additive Manufacturing of a Vugular Loss Zone Simulating Test Device

Granted Patent: U.S. Patent 11,268,381
Grant Date: March 8, 2022
 Md Amanullah and Abrar Alshaikh

Method and System for Extending Dilution Limit of a Prechamber Spark Ignition Engine

Granted Patent: U.S. Patent 11,268,434
Grant Date: March 8, 2022
 Alexander Voice, Nayan Engineer and Xin Yu

Centrifugal Pump with Adaptive Pump Stages

Granted Patent: U.S. Patent 11,268,519

Grant Date: March 8, 2022

Rafael A. Lastra and Chidirim E. Ejim

Centrifugal Pump with Adaptive Pump Stages

Granted Patent: U.S. Patent 11,268,520

Grant Date: March 8, 2022

Rafael A. Lastra and Chidirim E. Ejim

Process Integration for Natural Gas Liquid Recovery

Granted Patent: U.S. Patent 11,268,755

Grant Date: March 8, 2022

Mahmoud B. Noureldin, Akram H. Kamel and Abdulaziz A. Al-Najjar

Process Integration for Natural Gas Liquid Recovery

Granted Patent: U.S. Patent 11,268,756

Grant Date: March 8, 2022

Mahmoud B. Noureldin, Akram H. Kamel and Abdulaziz A. Al-Najjar

Thermal Analysis for Source Rocks

Granted Patent: U.S. Patent 11,268,919

Grant Date: March 8, 2022

Shannon L. Eichmann, Katherine L. Hull, Younane N. Abousleiman and David Jacobi

Computing Amplitude Independent Gradient for Seismic Velocity Inversion in a Frequency Domain

Granted Patent: U.S. Patent 11,269,097

Grant Date: March 8, 2022

Yan Wu, Yue Ma, Lei Cao, Hongwei Liu and Yi Luo

Method and System of Direct Gas Reservoir Detection Using Frequency Slope

Granted Patent: U.S. Patent 11,269,101

Grant Date: March 8, 2022

Si-Hai Zhang and Maher I. Marhoon

Method for Removing the Effect of Near Surface Galvanic Distortion in Surface to Borehole EM Measurements

Granted Patent: U.S. Patent 11,269,106

Grant Date: March 8, 2022

Gary W. McNeice, Daniele Colombo, Nestor H. Cuevas and Mauro Pezzoli

Apparatus and Method for Watermarking a Call Signal

Granted Patent: U.S. Patent 11,269,976

Grant Date: March 8, 2022

Faisal H. Khan

Calibration and Simulation of a Wellbore Liner

Granted Patent: U.S. Patent 11,270,048

Grant Date: March 8, 2022

Han Yanhui, Younane N. Abousleiman and Khalid M. Al-Ruwaili

Centralized Engineering Design Auto-Generation and Configuration Management System for Tracking Projects

Granted Patent: U.S. Patent 11,271,821

Grant Date: March 8, 2022

Mohammed A. Al-Jarrash and Mohammed S. Abuhaleegah

Methods and Systems for Optimizing Corrosion and Scale Inhibitor Injection Rates in Process Plants

Granted Patent: U.S. Patent 11,274,049

Grant Date: March 15, 2022

Samusideen Salu, Mohamed A. Soliman and Talal A. Zahrani

Process for Interconversion of Olefins with Modified Beta Zeolite

Granted Patent: U.S. Patent 11,274,068

Grant Date: March 15, 2022

Omer R. Koseoglu, Robert P. Hodgkins, Mitsunori Watabe, Tomoyasu Kagawa and Koji Uchida

Anti-Bit Balling Additive

Granted Patent: U.S. Patent 11,274,241

Grant Date: March 15, 2022

Khawlah A. Alanqari, Abdullah S. Al-Yami, Nassar S. Alalhareth and Ali M. Al-Safran

Flow Management Systems and Related Methods for Oil and Gas Applications

Granted Patent: U.S. Patent 11,274,501

Grant Date: March 15, 2022

Maher M. Shariff and Taras Y. Makogon

Capillary Tubing for Downhole Fluid Loss Repair

Granted Patent: U.S. Patent 11,274,505

Grant Date: March 15, 2022

Waleed Dokhon and Fahmi Aulia

Artificial Rain to Support Water Flooding in Remote Oil Fields

Granted Patent: U.S. Patent 11,274,534

Grant Date: March 15, 2022

Mohammed B. Al-Otaibi, Dong K. Cha and Ali A. Al-Yousef

Seismic Assisted Flooding Processes for Oil Recovery in Carbonates

Granted Patent: U.S. Patent 11,274,535

Grant Date: March 15, 2022

Abdulaziz S. Al-Qasim, Subhash C. Ayirala and Ali A. Al-Yousef

Logging Operations in Oil and Gas Applications

Granted Patent: U.S. Patent 11,274,549

Grant Date: March 15, 2022

Ahmed A. Al-Mousa, Ahmed A. Al-Ramadhan and Qadir D. Looni

System and Method for Testing Repassivation Kinetics

Granted Patent: U.S. Patent 11,275,016

Grant Date: March 15, 2022

AbdulHadi Abdullatif, Nayef M. Alanazi and Muthukumar Nagu

Holiday Testing Circuit for Coated Surface Inspection

Granted Patent: U.S. Patent 11,275,017

Grant Date: March 15, 2022

Brian J. Parrott and Sahejad Patel

Generating Diffraction Images Based on Wave Equations

Granted Patent: U.S. Patent 11,275,190

Grant Date: March 15, 2022

Dongliang Zhang, Tong W. Fei, Constantinos Tsingas and Yi Luo

Supplying Off-Grid Power to a Remote Facility

Granted Patent: U.S. Patent 11,277,004

Grant Date: March 15, 2022

Sai P. Katikaneni, Kunho Lee and Tolga Tural

Sender Policy Framework (SPF) Configuration Validator and Security Examiner

Granted Patent: U.S. Patent 11,277,375

Grant Date: March 15, 2022

Michael B. Gilliam

Cybersecurity Vulnerability Classification and Remediation Based on Network Utilization

Granted Patent: U.S. Patent 11,277,429

Grant Date: March 15, 2022

Mohammed Ababtain and Sultan S. Al-Sharif

Method of Producing an Aromatization Catalyst

Granted Patent: U.S. Patent 11,278,873

Grant Date: March 22, 2022

Manal Al-Eid, Lianhui Ding and Essa Alnaimi

Methods and Systems of Upgrading Heavy Aromatics Stream to Petrochemical Feedstock

Granted Patent: U.S. Patent 11,279,665

Grant Date: March 22, 2022

Omer R. Koseoglu and Robert P. Hodgkins

Fibrous Lost Circulation Material (LCM)

Granted Patent: U.S. Patent 11,279,862

Grant Date: March 22, 2022

Md Amanullah, Timothy E. Moellendick and Raed A. Alouhali

Method of Application of Sliding-Ring Polymers to Enhance Elastic Properties in Oil-Well Cement

Granted Patent: U.S. Patent 11,279,864

Grant Date: March 22, 2022

Hasmukh A. Patel, Carl J. Thaemlitz and Peter J. Boul

Well Treatment Fluid Having an Acidic Nanoparticle-Based Dispersion, an Epoxy Resin, and a Polyamine

Granted Patent: U.S. Patent 11,279,865

Grant Date: March 22, 2022

Vikrant B. Wagle, Abdullah S. Al-Yami, Zainab A. Alsaihati and Abdulaziz Alhelal

Hydrocracking Process and System Including Separation of Heavy Poly Nuclear Aromatics from Recycle by Sulfonation

Granted Patent: U.S. Patent 11,279,886

Grant Date: March 22, 2022

Omer R. Koseoglu

Process and System for Hydrogenation of Aromatic Complex Bottoms

Granted Patent: U.S. Patent 11,279,888

Grant Date: March 22, 2022

Omer R. Koseoglu, Robert P. Hodgkins and Frederick M. Adam

Systems and Processes for Direct Crude Oil Upgrading to Hydrogen and Chemicals

Granted Patent: U.S. Patent 11,279,891

Grant Date: March 22, 2022

Aadesh Harale, Mourad Younes, Aqil Jamal, Ahmad O. Al-Khowaiter, Ibrahim Abba and Abdennour Bourane

Monitoring Rig Activities

Granted Patent: U.S. Patent 11,280,177

Grant Date: March 22, 2022

Chinthaka P. Gooneratne, Michael A. Affleck and Timothy E. Moellendick

Wellbore Fluid Level Monitoring System

Granted Patent: U.S. Patent 11,280,178

Grant Date: March 22, 2022

Bodong Li, Chinthaka Pasan, Guodong (David) Zhan and Timothy E. Moellendick

Testing Cement Shear Bond Strength at Reservoir Conditions

Granted Patent: U.S. Patent 11,280,715

Grant Date: March 22, 2022

Arpita Bathija and Peter J. Boul

Determining Chemical Oxygen Demand

Granted Patent: U.S. Patent 11,280,778

Grant Date: March 22, 2022

Nasir Ullattampoyil and Abdulaziz M. Rueshed

Suppressing Noises in Seismic Data

Granted Patent: U.S. Patent 11,280,924

Grant Date: March 22, 2022

Fuhao Qin and Constantinos Tsingas

Generation and Implementation of Multilayer Encoded Data Images

Granted Patent: U.S. Patent 11,282,240

Grant Date: March 22, 2022

Rafael A. Lastra

Silicone Rubber Foam Brush

Granted Patent: U.S. Patent 11,285,599

Grant Date: March 22, 2022

Pablo C. Zanini, Brian J. Parrott and Ali Alshehri

Nickel Containing Catalyst Composition Having Enhanced Acidity for Autothermal Reforming Processes

Granted Patent: U.S. Patent 11,286,160

Grant Date: March 29, 2022

Rami Bamagain, Bandar A. Fadhel, Mohammed A. Albuali and Bandar Solami

Iron Sulfide Scale Inhibition in an Oil Production System

Granted Patent: U.S. Patent 11,286,187

Grant Date: March 29, 2022

Bader G. Al-Harbi and Norah Aljeaban

Preparation of Cationic Surfactants

Granted Patent: U.S. Patent 11,286,232

Grant Date: March 29, 2022

Xuan Zhang, Ming Han and Jinxun Wang

Nitrile-Diene-Carboxylic Acid Ester Copolymers

Granted Patent: U.S. Patent 11,286,525

Grant Date: March 29, 2022

Sven Brandau, Robert Staber and Susanna Lieber

Water-Based Drilling Fluid Compositions and Methods for Drilling Subterranean Wells

Granted Patent: U.S. Patent 11,286,412

Grant Date: March 29, 2022

Md Amanullah, Raed A. Alouhali, Sara A. Alkhalaf, Ali Radhwan, Mohammed K. Al-Arfaj and Abdulaziz S. Al-Qasim

Process for Heavy Oil Upgrading Utilizing Hydrogen and Water

Granted Patent: U.S. Patent 11,286,429

Grant Date: March 29, 2022

Mazin M. Fathi and Omer R. Koseoglu

Conversion Process Using Supercritical Water

Granted Patent: U.S. Patent 11,286,454

Grant Date: March 29, 2022

Ki-Hyouk Choi

Drillpipe Segments for Logging Operations

Granted Patent: U.S. Patent 11,286,725

Grant Date: March 29, 2022

Ahmed A. Al-Mousa, Ahmed A. Al-Ramadhan and Qadir D. Looni

Deploying Material to Limit Losses of Drilling Fluid in a Wellbore

Granted Patent: U.S. Patent 11,286,733

Grant Date: March 29, 2022

Bodong Li, Chinthaka P. Gooneratne, Rami F. Saleh and Timothy E. Moellendick

Sensored Electronic Valve for Drilling and Workover Applications

Granted Patent: U.S. Patent 11,286,747

Grant Date: March 29, 2022

Shrikant Tiwari and Suliman Azzouni

Mitigating Particulate Matter Emission in Engine Exhaust

Granted Patent: U.S. Patent 11,286,822

Grant Date: March 29, 2022

Remi Mahfouz and Tamour Javed

Air-Cooled Heat Exchanger Cleaning and Temperature Control Apparatus

Granted Patent: U.S. Patent 11,287,198

Grant Date: March 29, 2022

Abdullah M. Al-Otaibi

Assessment of Inaccessible Pore Volume for Polymer Flooding

Granted Patent: U.S. Patent 11,287,546

Grant Date: March 29, 2022

Ahmad M. Alharbi, Hyung T. Kwak and Jun Gao

Embedded Data Protection and Forensics for Physically Unsecure Remote Terminal Unit (RTU)

Granted Patent: U.S. Patent 11,288,578

Grant Date: March 29, 2022

Hassan Al-Yousef, Fouad Al-Khabbaz, Zakarya Abu-Al-Saud and Soloman Almadi

Replicating Data from Isolated Network

Granted Patent: U.S. Patent 11,290,566

Grant Date: March 29, 2022

Adnan M. Al-Ismaïl

Reactor and Method for Continuous Polymerization

Granted Patent: U.S. Patent 11,291,975

Grant Date: April 5, 2022

Rolf Feller, Hanns-Ingolf Paul, Paul Wagner and Udo Wiesner

Attachment Mechanisms for Stabilization of Subsea Vehicles

Granted Patent: U.S. Patent 11,292,158

Grant Date: April 5, 2022

Fadl H. Abdel Latif, Ali Outa, Sahejad Patel, Hassane Trigui and Abdullah Arab

Integrated Process for Maximizing Production of Para-Xylene from Full Reformate

Granted Patent: U.S. Patent 11,292,754

Grant Date: April 5, 2022

Qi Xu, Zhonglin Zhang and Raed Abudawoud

Systems and Processes for Producing Olefins

Granted Patent: U.S. Patent 11,292,755

Grant Date: April 5, 2022

Mohammed A. Al-Daous and Hussam A. Bahlouli

Sphere-Shaped Lost Circulation Material (LCM) Having Hooks and Latches

Granted Patent: U.S. Patent 11,292,950

Grant Date: April 5, 2022

Raed A. Alouhali, Timothy E. Moellendick, Md Amanullah, Mohammed K. Al-Arfaj and Mohammed Al Rashead

Cement Slurries, Cured Cement and Methods of Making and Use Thereof

Granted Patent: U.S. Patent 11,292,954

Grant Date: April 5, 2022

Ashok Santra and Peter J. Boul

Material Design for the Encapsulation of Additives and Release

Granted Patent: U.S. Patent 11,292,955

Grant Date: April 5, 2022

Elizabeth Q. Contreras

Hydrocracking Process and System Including Separation of Heavy Poly Nuclear Aromatics from Recycle by Oxidation

Granted Patent: U.S. Patent 11,292,970

Grant Date: April 5, 2022

Omer R. Koseoglu

Additive Manufacture of Casing Liner in a Wellbore

Granted Patent: U.S. Patent 11,295,257

Grant Date: April 5, 2022

Carl J. Thaemlitz and Peter J. Boul

Additive Manufacture of Wellbore Lining

Granted Patent: U.S. Patent 11,295,258

Grant Date: April 5, 2022

Carl J. Thaemlitz and Peter J. Boul

Additive Manufacture of Wellbore Tubulars

Granted Patent: U.S. Patent 11,295,259

Grant Date: April 5, 2022

Carl J. Thaemlitz and Peter J. Boul

Downhole Scale and Corrosion Mitigation

Granted Patent: U.S. Patent 11,295,268

Grant Date: April 5, 2022

Norah A. Aljeaban and Bader G. Alharbi

Turbomachinery Lubrication System Improvement Gravity Rundown Tanks

Granted Patent: U.S. Patent 11,295,515
Grant Date: April 5, 2022
 Abdulrahman Al-Khowaiter

Adjusting a Fuel On-Board a Vehicle

Granted Patent: U.S. Patent 11,295,586
Grant Date: April 5, 2022
 Esam Z. Hamad and Ibrahim M. Al-Gunaibet

Measuring a Water Cut of Hydrocarbon Fluid in a Production Pipe

Granted Patent: U.S. Patent 11,295,881
Grant Date: April 5, 2022
 Jose Oliverio Alvarez

Methods and Systems for Measuring Pore Volume Compressibility with Low Field Nuclear Magnetic Resonance Techniques

Granted Patent: U.S. Patent 11,295,886
Grant Date: April 5, 2022
 Marwah M. Alsinan and Hyung T. Kwak

Online System Identification for Data Reliability Enhancement

Granted Patent: U.S. Patent 11,294,540
Grant Date: April 5, 2022
 Wed H. Alsadah

Flow Management Systems and Related Methods for Oil and Gas Applications

Granted Patent: U.S. Patent 11,294,401
Grant Date: April 5, 2022
 Maher M. Shariff and Taras Y. Makogon

Water-Based Drilling Fluids that Include Lubricants

Granted Patent: U.S. Patent 11,299,661
Grant Date: April 12, 2022
 Md Amanullah, Jothibasuramasamy and Ali Radhwan

Method to Use Lost Circulation Material Composition Comprising Alkaline Nanoparticle-Based Dispersion and Sodium Bicarbonate in Downhole Conditions

Granted Patent: U.S. Patent 11,299,662
Grant Date: April 12, 2022
 Vikrant B. Wagle, Rajendra Kalgaonkar, Abdullah S. Al-Yami and Sara A. Alkhalaf

Method for Modifying Well Injection Profile and Enhanced Oil Recovery

Granted Patent: U.S. Patent 11,299,665
Grant Date: April 12, 2022
 Ali A. Al-Taq, Zuhair AlYousif and Othman Alswaie

Foaming Mixtures and Methods of Use Thereof

Granted Patent: U.S. Patent 11,299,664
Grant Date: April 12, 2022
 Mustafa Alkhowaildi, Zuhair AlYousef and Sunil L. Kokal

Hybrid Stationary Loss Circulation Cake Activated in Situ

Granted Patent: U.S. Patent 11,299,945
Grant Date: April 12, 2022
 Faramak Almassi

Expended Laser Tool

Granted Patent: U.S. Patent 11,299,950
Grant Date: April 12, 2022
 Sameeh I. Batarseh

Reducing Wellbore Annular Pressure with a Release System

Granted Patent: U.S. Patent 11,299,968
Grant Date: April 12, 2022
 Victor Oliveira and Khaled Abouelnaaj

Bypass System and Method for Inverted ESP Completion

Granted Patent: U.S. Patent 11,299,969
Grant Date: April 12, 2022
 Jinjiang Xiao and Rafael A. Lastra

Tracers for Petroleum Reservoirs

Granted Patent: U.S. Patent 11,299,982
Grant Date: April 12, 2022
 Jason R. Cox, Sehoon Chang, Rena Shi and Hooisweng Ow

Thermal- and Photo-Assisted Aftertreatment of Nitrogen Oxides

Granted Patent: U.S. Patent 11,500,051
Grant Date: April 12, 2022
 Esam Z. Hamad, Christos M. Kalamaras, Tamour Javed and Remi Mahfouz

Methods of Determining Cation Exchange Sites in Rock Core Samples

Granted Patent: U.S. Patent 11,500,494
Grant Date: April 12, 2022
 Quan Chen

Calcite Channel Structures with Heterogeneous Wettability

Granted Patent: U.S. Patent 11,500,554
Grant Date: April 12, 2022
 Dong K. Cha, Mohammed B. Alotaibi, Ahmed Gmira and Ali A. Al-Yousef

Utilization of Solar Systems to Harvest Atmospheric Moisture for Various Applications Including Panel Cleaning

Granted Patent: U.S. Patent 11,503,244
Grant Date: April 12, 2022
 Ahmad W. Khayyat, Bandar A. Fadhel, Ahmed M. Saggaf and Ahmad D. Hammad

Manufacturing Hydrocracking Catalyst

Granted Patent: U.S. Patent 11,505,264
Grant Date: April 19, 2022
 Omer R. Koseoglu, Robert P. Hodgkins, Tomoyasu Kagawa, Mitsunori Watabe and Koji Uchida

Nanosheet Polymer Composite for Water Shutoff

Granted Patent: U.S. Patent 11,506,159
Grant Date: April 19, 2022
 Ayman Almohsin, Edreese Alsharaeh and Feven M. Michael

Integrated Process for the Production of Isononanol and Paraffins for Producing Stable/Lubricating Gasoline and Diesel Blending Components

Granted Patent: U.S. Patent 11,506,257
Grant Date: April 19, 2022
 Omer R. Koseoglu, Sohel Shaikh and Zhonglin Zhang

Enhanced Light Olefin Yield via Steam Catalytic Downer Pyrolysis of Hydrocarbon Feedstock

Granted Patent: U.S. Patent 11,506,258
Grant Date: April 19, 2022
 Muased S. Al-Ghrami, Wei Xu and Aaron Akah

Processes for Thermal Upgrading of Heavy Oils Utilizing Disulfide Oil

Granted Patent: U.S. Patent 11,506,265
Grant Date: April 19, 2022
 Ki-Hyouk Choi, Mazin F. Fathi, Maddala V. Bhanumurthy, Abdullah M. Salma, Faisal M. Amulla, Ali M. Al-Somali and Young-Kyoung Ahn

Polymer Panels for Walkway and Paving

Granted Patent: U.S. Patent 11,506,445
Grant Date: April 19, 2022
 Mohammed Ai Mehtel, Waseem R. Khatri, Saleh A. Wohaibi, Oscar Salazar and Mirza Baig

Drill Bit Cutter Fitted with a Threaded Member

Granted Patent: U.S. Patent 11,506,545
Grant Date: April 19, 2022
 Bakr A. Al-Ghamdi

Well Pad Construction System and Methods

Granted Patent: U.S. Patent 11,506,544
Grant Date: April 19, 2022
 Zakariya Helal, Carlos Acero, Ali Al-Ali and Sami Al-Ghamdi

Drillpipe with Dissolvable Layer

Granted Patent: U.S. Patent 11,506,555
Grant Date: April 19, 2022
 Ibrahim Althowiqeb

Removing Fluid from Rock Formations in Oil and Gas Applications

Granted Patent: U.S. Patent 11,506,584
Grant Date: April 19, 2022
 Fatimah Dawood

Systems and Methods for Data Acquisition Design of Source and Receiver Locations

Granted Patent: U.S. Patent 11,507,517
Grant Date: April 19, 2022
 Yimin Sun

Augmented Reality Visualization of Underground Pipelines Using Geospatial Databases and KM Markers

Granted Patent: U.S. Patent 11,508,700
Grant Date: April 19, 2022
 Wessam H. Mahmood

Digitally Controlled Grounded Capacitance Multiplier

Granted Patent: U.S. Patent 11,509,854
Grant Date: April 19, 2022
 Abdulrahman Al-Shuhail, Hussain Al-Zaher and Alaa El-Din Hussein

Polymer Blended Membranes for Sour Gas Separation

Granted Patent: U.S. Patent 11,511,857
Grant Date: April 26, 2022
 Junyan Yang

Glycol Dehydration and Regeneration*Granted Patent: U.S. Patent 11,511,858**Grant Date: April 26, 2022*

Faisal Al-Enazi and Maher Urajjah

Carbon Dioxide Removal Using Sequestration Materials that Include Salts in Molten Form, and Related Systems and Methods*Granted Patent: U.S. Patent 11,511,840**Grant Date: April 26, 2022*

Trevor A. Hutton, Takuya Harada, Aqil Jamal and Cameron G. Halliday

Cracking Catalyst Comprising Platinum Encapsulated in Microporous Silica*Granted Patent: U.S. Patent 11,511,866**Grant Date: April 26, 2022*

Noor Al-Mana and Lianhui Ding

Use of Catalysts for the Metathesis of Nitrile Rubber*Granted Patent: U.S. Patent 11,511,868**Grant Date: April 26, 2022*

Silvia Schnitzler and Sarah David

Methods of Producing Isomerization Catalysts*Granted Patent: U.S. Patent 11,511,869**Grant Date: April 26, 2022*

Afnan Alghannam, Sohel Shaikh and Munir D. Khokhar

Hydrogenation of Nitrile Rubber*Granted Patent: U.S. Patent 11,512,791**Grant Date: April 26, 2022*

Qingchun Liu, Zhenli Wei and Karola Schneiders

Hydrogen-Enhanced Delayed Coking Process*Granted Patent: U.S. Patent 11,512,912**Grant Date: April 26, 2022*

Omer R. Koseoglu

Distillate Hydrocracking Process to Produce Isomerate*Granted Patent: U.S. Patent 11,512,915**Grant Date: April 26, 2022*

Omer R. Koseoglu and Ashok K. Punetha

Coating Carbon Steel Tubing with Iron Sulfide*Granted Patent: U.S. Patent 11,513,045**Grant Date: April 26, 2022*

Fakuen F. Chang, Tao Chen and Qiwei Wang

Concealed Nozzle Drill Bit*Granted Patent: U.S. Patent 11,513,178**Grant Date: April 26, 2022*

Shrikant Tiwari

Differential Iron Roughneck*Granted Patent: U.S. Patent 11,513,185**Grant Date: April 26, 2022*

Amjad Alshaarawi, Haytham Hamed, Meshari Alshalan, Abdulwahab Aljohar and Mohammed Badran

Loss Circulation Treatment Fluid Injection into Wells*Granted Patent: U.S. Patent 11,513,187**Grant Date: April 26, 2022*

Ismail A. Adebiji, Bandar S. Almalki, Asim Alkhuwayr and Yousef Aldahnm

Retrieving a Stuck Downhole Component*Granted Patent: U.S. Patent 11,513,194**Grant Date: April 26, 2022*

Hany Al-Yahya

Insulating Fluid for Thermal Insulation*Granted Patent: U.S. Patent 11,513,204**Grant Date: April 26, 2022*

Vikrant B. Wagle, Abdullah S. Al-Yami and Abdullah Awadh

Downhole Corrosion, Erosion, Scale and Deposit Monitoring System*Granted Patent: U.S. Patent 11,513,218**Grant Date: April 26, 2022*

Vladimir Jovancicevic, Sunder Ramachandran, Amro Mukhles and Irfan Syafii

Methods for Identifying Drill String Washouts during Wellbore Drilling*Granted Patent: U.S. Patent 11,513,220**Grant Date: April 26, 2022*

Ahmed Al-Mousa

Thermal Maturity Determination of Rock Formations Using Mud Gas Isotope Logging*Granted Patent: U.S. Patent 11,513,224**Grant Date: April 26, 2022*

Ahmed Hakami, Leroy Ellis and Sami Abdelbagi

Coring Method and Apparatus*Granted Patent: U.S. Patent 11,513,225**Grant Date: April 26, 2022*

Khalid Zainalabedin, Mustafa Huwaider and Shouxaing M. Ma

Burn Pit Flare Tip Structure*Granted Patent: U.S. Patent 11,513,557**Grant Date: April 26, 2022*

Hussain Al-Nassir, Khalid Al-Jumayyah and Hamid Al-Amer

Mapping Surface Features from Stacked Seismic Data*Granted Patent: U.S. Patent 11,513,986**Grant Date: April 26, 2022*

Sami N. Awfi

Identifying Geologic Features in a Subterranean Formation Using Seismic Diffraction Imaging*Granted Patent: U.S. Patent 11,513,988**Grant Date: April 26, 2022*

Dongliang Zhang, Tong W. Fei, Constantinos Tsingas and Yi Luo

Flow Management Systems and Related Methods for Oil and Gas Applications*Granted Patent: U.S. Patent 11,514,266**Grant Date: April 26, 2022*

Maher M. Shariff and Taras Y. Makogon

Controlling the Display of Diacritic Marks*Granted Patent: U.S. Patent 11,514,925**Grant Date: April 26, 2022*

Khaled Sawaf and Sheikah Al-Shaihah

Methods for Low Temperature Production of 1-Butene*Granted Patent: U.S. Patent 11,519,265**Grant Date: May 3, 2022*

Afnan Al-Ghannam, Munir Khokhar and Sohel Shaikh

Oil-Based Fluid Compositions for Hydrocarbon Recovery Applications*Granted Patent: U.S. Patent 11,519,474**Grant Date: May 3, 2022*

Abdullah S. Al-Yami, Vikrant B. Wagle, Hussain Al-Bahrani, Ali Al-Safran and Naser Al-Hareth

Oxidizing Gasses for Carbon Dioxide-Based Fracturing Fluids*Granted Patent: U.S. Patent 11,519,478**Grant Date: May 3, 2022*

Desmond Schipper, Katherine L. Hull, Rajesh K. Saini and Younane N. Abousleiman

Integrated Process for Mesophase Pitch and Petrochemical Production*Granted Patent: U.S. Patent 11,519,490**Grant Date: May 3, 2022*

Remi Mahfouz, Xinglong Dong, Ola S. Ali, Wei Xu, Yu Han and Isidoro Morales Osorio

Systems and Processes for Hydrocarbon Blending*Granted Patent: U.S. Patent 11,519,496**Grant Date: May 3, 2022*

Mazin Fathi and Ki-Hyouk Choi

Optimizing the Simultaneous Production of High-Value Chemicals and Fuels from Heavy Hydrocarbons*Granted Patent: U.S. Patent 11,519,498**Grant Date: May 3, 2022*

Nicolas Goyheneix, Hatem Belfadhel, Jurgen Kleiberger, Vinod Ramaseshan, Timothy Abbott and Mohamed S. Abdelghani

Corrosion Inhibitors for a Refinery*Granted Patent: U.S. Patent 11,519,654**Grant Date: May 3, 2022*

Nayef M. Alanazi and Muthukumar Nagu

Hybrid Reamer and Stabilizer*Granted Patent: U.S. Patent 11,519,756**Grant Date: May 3, 2022*

Peter I. Egbe and Victor Bustamante

Swellable Lost Circulation Material and Methods of Manufacturing and Using the Same*Granted Patent: U.S. Patent 11,519,760**Grant Date: May 3, 2022*

Atallah N. Harbi

Multi-Intervention Blowout Preventer and Methods of Use Thereof*Granted Patent: U.S. Patent 11,519,769**Grant Date: May 3, 2022*

Bandar S. Almalki, Mohammed Y. Aldaif, Ali E. Aldossary and Prasad Karunakaran

Cementing High-Loss Zones*Granted Patent: U.S. Patent 11,519,771**Grant Date: May 3, 2022*

Ismail A. Adebiji, Bandar S. Almalki, Asim Alkhuwayr and Yousef Aldahnm

Extended Surface System with Helical Reamers*Granted Patent: U.S. Patent 11,519,777**Grant Date: May 3, 2022*

Ibrahim Althowiqeb

Process Integration for Natural Gas Liquid Recovery

Granted Patent: U.S. Patent 11,520,196

Grant Date: May 3, 2022

Mahmoud B. Noureldin, Akram H. Kamel and Abdulaziz A. Al-Najjar

Characterization of Crude Oil by Time of Flight Mass Spectrometry

Granted Patent: U.S. Patent 11,520,415

Grant Date: May 3, 2022

Omer R. Koseoglu, Adnan Al-Hajji and Hendrik Muller

Method for Differentiating between Natural Formation Hydrocarbon and Cracked Hydrocarbon Using Mud Gas Measurements

Granted Patent: U.S. Patent 11,520,414

Grant Date: May 3, 2022

Fahad A. Fayez, Ali Al-Saad and Ibrahim M. Meer

Post-Stack Time Domain Image with Broadened Spectrum

Granted Patent: U.S. Patent 11,520,557

Grant Date: May 3, 2022

Yimin Sun, Woodon Jeong and Constantinos Tsingas

Direct Hydrocarbon Metal Supported Solid Oxide Fuel Cell

Granted Patent: U.S. Patent 11,522,766

Grant Date: May 3, 2022

Kunho Lee and Sai P. Katikaneni

Sulfur Recovery Operation with Improved Carbon Dioxide Recovery

Granted Patent: U.S. Patent 11,525,065

Grant Date: May 10, 2022

Milind Vaidya, Sebastien A. Duval, Feras Hamad, Richard Baker, Tim Merkel, Kaeed Lokhandwala, Ahmed A. Bahamdan and Faisal D. Al-Otaibi

Helium Recovery from Gaseous Streams

Granted Patent: U.S. Patent 11,525,066

Grant Date: May 10, 2022

Feras Hamad, Megat A. Ritahuddeen, Taib Abang, Milind Vaidya and Sebastien A. Duval

Compositions for Sealing an Annulus of a Wellbore

Granted Patent: U.S. Patent 11,526,087

Grant Date: May 10, 2022

Abdullah S. Al-Yami, Ali Alsafran, Vikrant B. Wagle, Hussain Albahrani and Zainab A. Alsaihati

High Temperature Cross-Linked Fracturing Fluids with Reduced Friction

Granted Patent: U.S. Patent 11,526,092

Grant Date: May 10, 2022

Feng Liang, Jose I. Rueda and Nam Mai

Integrated Process for the Production of Isononanol and Stable/Lubricating Alcohol Gasoline Blending Components

Granted Patent: U.S. Patent 11,526,108

Grant Date: May 10, 2022

Omer R. Koseoglu, Sohail Shaikh and Zhonglin Zhang

Multi-Step Pressure Cascaded Hydrocracking Process

Granted Patent: U.S. Patent 11,526,111

Grant Date: May 10, 2022

Omer R. Koseoglu

Integrated Hydrocracking/Adsorption and Aromatic Recovery Complex to Utilize the Aromatic Bottoms Stream

Granted Patent: U.S. Patent 11,526,112

Grant Date: May 10, 2022

Omer R. Koseoglu and Ali H. Al-Zaid

Natural Gas Liquids Recovery Process

Granted Patent: U.S. Patent 11,526,116

Grant Date: May 10, 2022

Ayman M. Mohammed, Diki Andrian and Yaqoub Al-Khalaf

Tool and Method for Forming a Cavern for Hydrocarbon Production

Granted Patent: U.S. Patent 11,526,401

Grant Date: May 10, 2022

Mohamed N. Noui-Mehidi and Khalid M. Al-Ruwaili

Separating Solids from Liquids in a Drilling Fluid

Granted Patent: U.S. Patent 11,526,405

Grant Date: May 10, 2022

Ahmed A. Al-Mousa, Marius Neacsu and Omar Al-Hamid

Automated Production Optimization Technique for Smart Well Completions Using Real-Time Nodal Analysis Including Recommending Changes to Downhole Settings

Granted Patent: U.S. Patent 11,526,425

Grant Date: May 10, 2022

Amer Alanazi, Abdulaziz S. Al-Qasim and Ahmed Y. Bukhamseen

Compositions, Systems, and Methods for Iron Sulfide Scale Identification, Prevention, and Reduction

Granted Patent: U.S. Patent 11,526,459

Grant Date: May 10, 2022

Harry D. Oduro

Wellbore Stability Prediction

Granted Patent: U.S. Patent 11,526,447

Grant Date: May 10, 2022

Khaqan Khan

Pressure Testing Systems for Subterranean Rock Formations

Granted Patent: U.S. Patent 11,526,448

Grant Date: May 10, 2022

Khalid M. Al-Ruwaili

Balancing Axial Thrust in Submersible Well Pumps

Granted Patent: U.S. Patent 11,526,607

Grant Date: May 10, 2022

Jinjiang Xiao and Chidirim E. Ejim

Detecting Saturation Levels of a Core Sample Using Magnetic Fields

Granted Patent: U.S. Patent 11,527,000

Grant Date: May 10, 2022

Muhammad A. Karimi, Muhammad Ayub, Muhammad Arsalan and Atif Shamim

Robust Arrival Picking of Seismic Vibratory Waves

Granted Patent: U.S. Patent 11,527,188

Grant Date: May 10, 2022

Hyungsu Baek

Seismic Mono-Frequency Workflow for Direct Gas Reservoir Detection

Granted Patent: U.S. Patent 11,527,191

Grant Date: May 10, 2022

Taher M. Sodagar

On Air Testing Method and Apparatus for Receiver Antennae of a TETRA Base Station

Granted Patent: U.S. Patent 11,529,755

Grant Date: May 10, 2022

Mustafa A. Jar, Yousif M. Muhaimeed, Mohammed S. Al-Mehmadi and Naif R. Al-Mutairi

Managing Foam in Gas Processing Systems

Granted Patent: U.S. Patent 11,531,600

Grant Date: May 17, 2022

Nasser Qahtani

Thin Film Composite Hollow Fiber Membranes Fabrication Systems

Granted Patent: U.S. Patent 11,531,652

Grant Date: May 17, 2022

Seung-Hak Choi, Melhan M. Sultan, Halah A. Sulaiman and Abdulrahman A. Alsuailem

Multi-Opening Chemical Injection Device

Granted Patent: U.S. Patent 11,531,656

Grant Date: May 17, 2022

Mohamed A. Soliman, Samer Abduljabbar and Samusideen Salu

Synthetic Functionalized Additives, Methods of Synthesizing, and Methods of Use

Granted Patent: U.S. Patent 11,532,651

Grant Date: May 17, 2022

Hasmukh Patel and Carl J. Thaemlitz

LCM Composition with Controlled Viscosity and Cure Time and Methods of Treating a Lost Circulation Zone of a Wellbore

Granted Patent: U.S. Patent 11,532,656

Grant Date: May 17, 2022

Abdullah S. Al-Yami, Vikrant B. Wagle, Ali Al-Safran, Khawlah A. Alanqari and Sara A. Alkhalaf

Enhanced Demulsifier Performance Ranking Procedure and Algorithm Based on Separation Efficiency

Granted Patent: U.S. Patent 11,532,677

Grant Date: May 17, 2022

Ramsey J. White, Debora S. Marques, Sajjad Al-Khabazm and Nasser Al-Hajri

Processing of Paraffinic Naphtha with Modified USY Zeolite Dehydrogenation Catalyst

Granted Patent: U.S. Patent 11,532,678

Grant Date: May 17, 2022

Omer R. Koseoglu, Ali Al-Shareef, Mitsunori Watabe, Tomoyasu Kagawa and Koji Uchida

Processes for Producing Petrochemical Products that Utilize Fluid Catalytic Cracking of Lesser and Greater Boiling Point Fractions with Steam

Granted Patent: U.S. Patent 11,552,680
Grant Date: May 17, 2022

Musaed S. Al-Ghrami, Aaron Akah and Abdenour Bourane

Alcohol and Ether Fuel Additives for Lead-Free Gasoline

Granted Patent: U.S. Patent 11,552,684
Grant Date: May 17, 2022

Kareemuddin M. Shaik, Hassan Babiker, Leal Guillermo, Mohammed B. Ansari, Somak Paul and Gunda Kamalakar

Targeted Downhole Delivery with Container

Granted Patent: U.S. Patent 11,552,991
Grant Date: May 17, 2022

Huseyin Seren and Thomas Hillman

Laser Cutting Tool

Granted Patent: U.S. Patent 11,552,994
Grant Date: May 17, 2022

Mohammad S. Al-Badran and Sameeh I. Batarseh

Downhole Drill Inject and Plug Tool

Granted Patent: U.S. Patent 11,552,997
Grant Date: May 17, 2022

Graham R. Hitchcock

Traversing Across a Wash-Out Zone in a Wellbore

Granted Patent: U.S. Patent 11,552,988
Grant Date: May 17, 2022

Frode Hveding and Saeed M. Almubarak

Smart Choke Valve to Regulate Well Sand Production

Granted Patent: U.S. Patent 11,553,010
Grant Date: May 17, 2022

Abdulrahman S. Ahmari

Method for Capacitive Cancellation of Tuning Fork for Fluid Property Measurements

Granted Patent: U.S. Patent 11,553,015
Grant Date: May 17, 2022

Huseyin R. Seren, Miguel Gonzalez, Sebastian Csutak and Max Deffenbaugh

Dynamic Contact Angle Measurement

Granted Patent: U.S. Patent 11,553,491
Grant Date: May 17, 2022

Amar J. Alshehri and Abdulkarim M. AlSofi

Systems and Methods for Fluid Flow Measurement with Mass Flow and Electrical Permittivity Sensors

Granted Patent: U.S. Patent 11,553,558
Grant Date: May 17, 2022

Sakethraman Mahalingam and Muhammad Arsalan

Detecting Subsea Hydrocarbon Seepage

Granted Patent: U.S. Patent 11,553,779
Grant Date: May 17, 2022

Julio A.A. Carvalho and Joao V. Keller

Method and System for Processing a Three-Dimensional (3D) Seismic Data Set

Granted Patent: U.S. Patent 11,553,780
Grant Date: May 17, 2022

Taher M. Sodagar and Ahmed M. Al-Hamad

Parking Control System, Parking Control Method, and Mobile Robot Device

Granted Patent: U.S. Patent 11,553,199
Grant Date: May 17, 2022

Hussain A. Al-Rasheed and Dima M. Al-Harith

Dividing Wall Debutanizer Column, System and Method of Operation

Granted Patent: U.S. Patent 11,558,219
Grant Date: May 24, 2022

Hae Y. Noh

Catalytic Hydrocarbon Dehydrogenation

Granted Patent: U.S. Patent 11,558,269
Grant Date: May 24, 2022

Mohammed A. Al-Daous and Hussam A. Bahlouli

Catalyst Compositions Having Enhanced Acidity for Autothermal Reforming Processes

Granted Patent: U.S. Patent 11,558,270
Grant Date: May 24, 2022

Rami Bamagain, Bandar A. Fadhel and Bandar Solami

Electrochemical Reduction of Carbon Dioxide to Upgrade Hydrocarbon Feedstocks

Granted Patent: U.S. Patent 11,559,109
Grant Date: May 24, 2022

Bandar A. Fadhel, Ahmad D. Hammad, Issam T. Amr and Wajdi I. Sadat

Reduction of Breakdown Pressure by Filter Cake Removal Using Thermochemicals

Granted Patent: U.S. Patent 11,559,519
Grant Date: May 24, 2022

Ayman R. Al-Nakhli, Mohamed M. Nasr Eldin, Abdulazeez Abdulraheem and Zeeshan Tariq

Reactive Hydraulic Fracturing Fluid

Granted Patent: U.S. Patent 11,559,521
Grant Date: May 24, 2022

Desmond Schipper, Katherine L. Hull, Rajesh K. Saini and Younane N. Abousleiman

Systems and Processes Integrating Fluidized Catalytic Cracking with Metathesis for Producing Olefins

Granted Patent: U.S. Patent 11,559,552
Grant Date: May 24, 2022

Sohel Shaikh, Zhonglin Zhang, Raed Abudawoud, Munir D. Khokhar and Furqan Aljumah

Integrated Aromatic Separation Process with Selective Hydrocracking and Steam Pyrolysis Processes

Granted Patent: U.S. Patent 11,559,556
Grant Date: May 24, 2022

Omer R. Koseoglu

Systems and Method for Adjusting a Drilling Rig

Granted Patent: U.S. Patent 11,559,582
Grant Date: May 24, 2022

Fathalla Shalouf

Determining the Integrity of an Isolated Zone in a Wellbore

Granted Patent: U.S. Patent 11,559,656
Grant Date: May 24, 2022

Muhammad Arsalan, Jarl A. Fellinghaug, Vegard Fiksdal and Stian M. Hansen

Method and System of Drilling with Geologically Driven Rate of Penetration

Granted Patent: U.S. Patent 11,559,640
Grant Date: May 24, 2022

Arturo Magana-Mora, Timothy E. Moellendick and Ammar Alali

Systems and Methods for Generating Continuous Grain Size Logs from Petrographic Thin Section Images

Granted Patent: U.S. Patent 11,559,651
Grant Date: May 24, 2022

Fatai A. Anifowose and Mokhles M. Mezghani

Sampling Formation Fluid in Oil and Gas Applications

Granted Patent: U.S. Patent 11,559,652
Grant Date: May 24, 2022

Nawaf Al-Shammari and Auda Al-Dulaijan

Vehicle System with Fuel Separation System and Method of Using Same

Granted Patent: U.S. Patent 11,559,754
Grant Date: May 24, 2022

David J. Cleary and Esam Z. Hamad

Dual Slider Mechanism

Granted Patent: U.S. Patent 11,540,132
Grant Date: May 24, 2022

Abdoulelah Al-Hannabi, Mohamed Abdelkader, Hassane Trigui, Sahejad Patel and Fadl H. Abdel Latif

Generating a Velocity Model and a Density Model of a Subsurface Structure of a Reservoir

Granted Patent: U.S. Patent 11,540,368
Grant Date: May 24, 2022

Yimin Sun and Tong W. Fei

Automatic Quality Control of Seismic Travel-Time

Granted Patent: U.S. Patent 11,540,370
Grant Date: May 24, 2022

Daniele Colombo, Federico Miorelli, Diego Rovetta and Gary McNeice

Systems and Methods to Validate Petrophysical Models Using Reservoir Simulations

Granted Patent: U.S. Patent 11,540,381
Grant Date: May 24, 2022

Jubril Oluwa, Dhaher Elew and Charles M. Bradford

Infrastructure Construction Digital Integrated Twin (ICDIT)

Granted Patent: U.S. Patent 11,541,850
Grant Date: May 24, 2022

Bander R. Yousef, Soliman M. Al-Madi, Abdullah F. Halafi, Abdulaziz K. Senaide and Fouad M. Khabbaz

Secure Authorization Provisioning Using Variant Profiles

Granted Patent: U.S. Patent 11,545,251

Grant Date: May 24, 2022

Abdulrhman Assiri, Allam Mourad, Nabil H. Dossari and Jafar Julaih

Multiple Reactor System for Parallel Catalyst Testing

Granted Patent: U.S. Patent 11,544,860

Grant Date: May 31, 2022

Omer R. Koseoglu and Ali H. Alshareef

Methods for Reacting Chemical Streams with Catalysts Comprising Silica, Alumina, and Tungsten

Granted Patent: U.S. Patent 11,544,874

Grant Date: May 31, 2022

Brian S. Hanna and Michele L. Ostrat

Optimized Method and System for Internal Coating of Field Girth Welds

Granted Patent: U.S. Patent 11,544,974

Grant Date: May 31, 2022

Hassane Trigui, Sahejad Patel, Brian J. Parrott, Mohamed Abdelkader and Abdouleh Al-Hannabi

Systems and Methods for Preparing Nano-Sized Crystals of BEA Zeolite

Granted Patent: U.S. Patent 11,545,605

Grant Date: May 31, 2022

Emad N. Al-Shafei, Oki Muraza, Mohamed H.M. Ahmed, Ki-Hyouk Choi and Zain H. Yamani

Permeate Gap Membrane Distillation

Granted Patent: U.S. Patent 11,545,619

Grant Date: May 31, 2022

Dahiru U. Lawal, Mohammed Abdulazeem, Turki N. Baroud and Hasan Al-Abdulgader

Methods for Producing an Emulsifier Suitable for Use in an Emulsion Drilling Fluid

Granted Patent: U.S. Patent 11,545,845

Grant Date: May 31, 2022

Jothibasu Ramasamy and Md Amanullah

Production of Linear Olefins from Heavy Oil

Granted Patent: U.S. Patent 11,545,861

Grant Date: May 31, 2022

Ki-Hyouk Choi, Abdullah T. Alabdulhadi, Joo-Hyeong Lee and Ali M. Alsomali

Naphthenic Acid Corrosion Inhibitors for a Refinery

Granted Patent: U.S. Patent 11,545,867

Grant Date: May 31, 2022

Muthukumar Nagu and Nayef M. Al-Anazi

Flow Barrier to Prevent Infiltration of Wastewater from Wastewater Disposal Ponds

Granted Patent: U.S. Patent 11,546,072

Grant Date: May 31, 2022

Raed A. Alouhali, Omar Shaiji, Md Amanullah, Mohammad Alotaibi and Mohammad S. Al-Badran

Method and Apparatus of Intelligent Downhole Multifunction Inflatable System for Oil and Gas Wells

Granted Patent: U.S. Patent 11,546,170

Grant Date: May 31, 2022

Ziyad Al-Sahlawi, Mahmoud AL-Qurashi and Ossama R. Sehsah

Repairable Seal Assemblies for Oil and Gas Applications

Granted Patent: U.S. Patent 11,546,177

Grant Date: May 31, 2022

Robert J. Turner and Brett W. Bouldin

Deploying a Liner in a Wellbore

Granted Patent: U.S. Patent 11,546,188

Grant Date: May 31, 2022

Michael A. Affleck, Timothy E. Moellendick and Scott Fraser

Hydraulic Y-Tool System

Granted Patent: U.S. Patent 11,546,194

Grant Date: May 31, 2022

Saeed Al-Ghamdi, Fahad Al-Shinaiber and Abdullah Al-Somali

Concurrent Fluid Injection and Hydrocarbon Production from a Hydraulically Fractured Horizontal Well

Granted Patent: U.S. Patent 11,546,195

Grant Date: May 31, 2022

Huseyin O. Balan and Anuj Gupta

Drilling Bit Nozzle-Based Sensing System

Granted Patent: U.S. Patent 11,546,207

Grant Date: May 31, 2022

Abrar Alshaiikh, Guodong (David) Zhan, Bodong Li and Timothy E. Moellendick

Flange Management and Services Tool

Granted Patent: U.S. Patent 11,546,465

Grant Date: May 31, 2022

Abdullah M. Otaibi, Ridha A. Al-Hassan, Jalal M. Ramdhan and Ali A. Aliwi

Disconnectable Fluid Coupling

Granted Patent: U.S. Patent 11,546,484

Grant Date: May 31, 2022

Abdulrahman Al-Ghanmi

Passive Alignment Mechanism for Off-Centered Probe Deployment

Granted Patent: U.S. Patent 11,546,489

Grant Date: May 31, 2022

Abdouleh Al-Hannabi, Mohamed Abdelkader, Hassane Trigui and Sahejad Patel

System and Apparatus for Testing and/or Evaluating an Industrial Catalyst

Granted Patent: U.S. Patent 11,546,826

Grant Date: May 31, 2022

Anas F. Alkhani and Omer R. Koseoglu

Automatic Quality Control of Seismic Travel-Time

Granted Patent: U.S. Patent 11,546,970

Grant Date: May 31, 2022

Daniele Colombo, Federico Miorelli, Diego Rovetta and Gary W. McNeice

Imaging Subterranean Features Using Fourier Transform Interpolation of Seismic Data

Granted Patent: U.S. Patent 11,546,971

Grant Date: May 31, 2022

Fuhao Qin and Pierre Leger

Acquiring Seismic Data with Seismic-while-Drilling (SWD)

Granted Patent: U.S. Patent 11,546,972

Grant Date: May 31, 2022

Mustafa N. Al-Ali, Abdulaziz Al Muhaidib, Emad A. Hemryari, Pavel Golikov and Yi Luo

Capacitive Electromagnetic Formation Surveillance Using Passive Source

Granted Patent: U.S. Patent 11,546,973

Grant Date: May 31, 2022

Daniele Colombo, Gary W. McNeice and Brett W. Bouldin

System and Method for File Artifact Metadata Collection and Analysis

Granted Patent: U.S. Patent 11,547,851

Grant Date: May 31, 2022

Aminullah S. Tora, Rana Y. Al-Nujaidi and Sharjeel Anjam

Current-Mode Square Wave Oscillator

Granted Patent: U.S. Patent 11,549,455

Grant Date: May 31, 2022

Abdulrahman Al-Shuhail and Hussain Al-Zaher

Current-Mode Schmitt Trigger Using Current Output Stages

Granted Patent: U.S. Patent 11,549,460

Grant Date: May 31, 2022

Abdulrahman Al-Shuhail, Hussain Al-Zaher and Alaa El-Din Hussein

Emulsion Layer Alarm System for Prevention of Process Upsets in Electrostatic Coalescers

Granted Patent: U.S. Patent 11,551,480

Grant Date: June 7, 2022

Ramsey J. White, Miguel A. Lopez, Abdullah A. Al-Hamoud and Leela S. Akurathi

Zeolite Composite Catalysts for Conversion of Heavy Reformate to Xylenes

Granted Patent: U.S. Patent 11,551,527

Grant Date: June 7, 2022

Syed A. Ali, Sulaiman S. Al-Khattaf, Rabindran J. Balasamy, Raed Abudawoud and Abdullah M. Aitani

Apparatus for Coating Dust Particles Uniformly on Flat Surfaces for Accelerated Testing

Granted Patent: U.S. Patent 11,551,570

Grant Date: June 7, 2022

Issam Gereige and Ahmad W. Khayyat

Methods for Preparing Mixed Metal Oxide Diamondoid Nanocomposites and Catalytic Systems Including the Nanocomposites

Granted Patent: U.S. Patent 11,551,604

Grant Date: June 7, 2022

Hugh C. Greenwell, Manohara G. Veerabhadrapa, John A. Hall, Andrew Whiting and Gasan Alabedi

Methods of Holistically Diffusing Carbon Dioxide within a Concrete Mixture

Granted Patent: U.S. Patent 11,552,502

Grant Date: June 7, 2022

Bandar A. Fadhel, Ahmad D. Hammad, Issam T. Amr and Ali S. Al Hunaidy

Sealing Compositions and Methods of Sealing an Annulus of a Wellbore

Granted Patent: U.S. Patent 11,552,541

Grant Date: June 7, 2022

Abdullah S. Al-Yami, Ali Alsafran, Vikrant B. Wagle, Hussain Albahrani and Zainab A. Alsaihati

Lost Circulation Material for Reservoir Section

Granted Patent: U.S. Patent 11,552,545

Grant Date: June 7, 2022

Md Amanullah and Raed Al-Ouhali

Loss Circulation Material Composition Having Alkaline Nanoparticle-Based Dispersion and Water Soluble Hydrolysable Ester

Granted Patent: U.S. Patent 11,552,546

Grant Date: June 7, 2022

Vikrant B. Wagle, Rajendra Kalgaonkar, Abdullah S. Al-Yami and Zainab A. Alsaihati

Viscoelastic-Surfactant Treatment Fluids Having Oxidizer

Granted Patent: U.S. Patent 11,552,548

Grant Date: June 7, 2022

Katherine L. Hull, Rajesh K. Saini and Brady K. Crane

Compositions and Methods for the Use and Application of Carbon Nanodots for Deep Reservoir Enhanced Oil Recovery

Granted Patent: U.S. Patent 11,552,549

Grant Date: June 7, 2022

Mazen Kanj and Sivabalan Sakthivel

High-Severity Fluidized Catalytic Cracking Systems and Processes Having Partial Catalyst Recycle

Granted Patent: U.S. Patent 11,552,575

Grant Date: June 7, 2022

Sameer A. Al-Ghamdi, Saad Al-Bogami and Abdennour Bourane

Simultaneous Crude Oil Dehydration, Desalting, Sweetening, and Stabilization with Compression

Granted Patent: U.S. Patent 11,552,574

Grant Date: June 7, 2022

Mohammed A. Soliman

Processes for Producing Petrochemical Products that Utilize Hydrotreating of Cycle Oil

Granted Patent: U.S. Patent 11,552,575

Grant Date: June 7, 2022

Musaed S. Al-Ghrami, Aaron Akah and Abdennour Bourane

Modeling Reservoir Flow and Transport Processes in Reservoir Simulation

Granted Patent: U.S. Patent 11,552,855

Grant Date: June 7, 2022

Larry S. Fung, Xiang Y. Ding and Ali H. Dogru

Enhanced Hydrocarbon Recovery with Electric Current

Granted Patent: U.S. Patent 11,552,867

Grant Date: June 7, 2022

Abdulaziz S. Al-Qasim, Subhash C. Ayirala and Ali A. Yousef

System and Method to Identify Water Management Candidates at Asset Level

Granted Patent: U.S. Patent 11,552,875

Grant Date: June 7, 2022

Ali Al-Shahri, Waqas Khan and Numan Aqeel

Collaborative Sensing and Prediction of Source Rock Properties

Granted Patent: U.S. Patent 11,552,879

Grant Date: June 7, 2022

Weichang Li, Sebastian Csutak, David Jacobi, Max Deffenbaugh and Tiffany D. McAlpin

Testing Petrophysical Properties Using a Triaxial Pressure Centrifuge Apparatus

Granted Patent: U.S. Patent 11,553,585

Grant Date: June 7, 2022

Mustafa Hakimuddin

Identifying Geologic Features in a Subterranean Formation Using Angle Domain Gathers Sampled in a Spiral Coordinate Space

Granted Patent: U.S. Patent 11,553,609

Grant Date: June 7, 2022

Hongwei Liu and Fuhao Qin

Estimating Geological Dip Based on Seismic Data

Granted Patent: U.S. Patent 11,553,610

Grant Date: June 7, 2022

Hyongsu Baek

Nonstationary Maximum Likelihood Method to Estimate Dispersion Spectra for Full Waveform Sonic Logging

Granted Patent: U.S. Patent 11,553,612

Grant Date: June 7, 2022

Xuekai Sun and Christopher Ayadiuno

Systems and Methods for Hydrocarbon Reservoir Three-Dimensional Unstructured Grid Generation and Development

Granted Patent: U.S. Patent 11,553,622

Grant Date: June 7, 2022

Shahid Manzoor

Parallel Processor Data Processing System with Reduced Latency

Granted Patent: U.S. Patent 11,554,469

Grant Date: June 7, 2022

Maitham M. Alhubail, Ali H. Dogru, Usuf Middy, Qiqi Wang and John R. Williams

High Activity Reforming Catalyst Formulation and Process for Low Temperature Steam Reforming of Hydrocarbons to Produce Hydrogen

Granted Patent: U.S. Patent 11,558,128

Grant Date: June 14, 2022

Sai P. Katikaneni, Shakeel Ahmed, Aadesh Harale, Mohammed A. Albuali, Kunho Lee and Mohammed Draz

Inspection Apparatus and Method for Visual Inspecting Elastic Particles

Granted Patent: U.S. Patent 11,558,178

Grant Date: June 14, 2022

Hanns-Ingolf Paul, Axel Boensch, Guy Vercammen and Jan Van Loock

Invert-Emulsion Drilling Fluids and Methods for Reducing Lost Circulation in a Subterranean Formation Using the Invert-Emulsion Drilling Fluids

Granted Patent: U.S. Patent 11,559,125

Grant Date: June 14, 2022

Abdullah S. Al-Yami, Vikrant B. Wagle, Sara A. Alkhalaf and Khawlah A. Alanqari

Methods for Selecting Surfactant Solutions for Use in Enhanced Oil Recovery Processes

Granted Patent: U.S. Patent 11,559,133

Grant Date: June 14, 2022

Subhash C. Ayirala and Abdulkareem M. AlSofi

Treatment Fluids and Methods for Recovering Hydrocarbons from a Subterranean Formation

Granted Patent: U.S. Patent 11,559,134

Grant Date: June 14, 2022

Abdulaziz S. Al-Qasim, Afnan Mashat, Zuhair AlYousif, Deena Tayyib and Mustafa Alsaifar

Methods and Systems to Produce Needle Coke from Aromatic Recovery Complex Bottoms

Granted Patent: U.S. Patent 11,559,148

Grant Date: June 14, 2022

Omer R. Koseoglu and Robert P. Hodgkins

High Power Laser Completion Drilling Tool and Methods for Upstream Subsurface Applications

Granted Patent: U.S. Patent 11,559,438

Grant Date: June 14, 2022

Sameeh I. Batarseh

Monitoring Oil Health in Subsurface Safety Valves

Granted Patent: U.S. Patent 11,559,458

Grant Date: June 14, 2022

Brian A. Roth

Balancing Axial Thrust in Submersible Well Pumps

Granted Patent: U.S. Patent 11,559,472

Grant Date: June 14, 2022

Jinjiang Xiao and Chidirim E. Ejim

Spark Ignition Engine, Pre-Chamber, and Method for Cooling a Pre-Chamber

Granted Patent: U.S. Patent 11,559,557

Grant Date: June 14, 2022

Patrick Gastaldi

Passive Thermal Diode for Transportation Pipelines Using Contact Switch Based on Shape Memory Polymer (SMP-PTD)

Granted Patent: U.S. Patent 11,559,759

Grant Date: June 14, 2022

Guillaume Raynel and Thibault Villette

Dynamic Online Process Flow Diagramming

Granted Patent: U.S. Patent 11,560,463

Grant Date: June 14, 2022

Hassan Al-Matouq

Parking Indicator Comprising Indicator Retracting Mechanism

Granted Patent: U.S. Patent 11,561,662

Grant Date: June 14, 2022

Issam T. Amr, Ahmad D. Hammad, Faisal S. Aljar and Bandar A. Fadhel

Nickel Containing Catalyst Composition Having Enhanced Acidity for Steam Reforming Processes

Granted Patent: U.S. Patent 11,565,120

Grant Date: June 21, 2022

Rami Bamagain, Bandar A. Fadhel, Mohammed A. Albuai and Bandar Solami

Lubricants that Include Alkyl Esters and Fatty Acids

Granted Patent: U.S. Patent 11,565,537

Grant Date: June 21, 2022

Md Amanullah, Jothibasuramasamy and Ali Radhwan

Development of Retarded Acid System

Granted Patent: U.S. Patent 11,565,539

Grant Date: June 21, 2022

Abdullah S. Al-Yami, Vikrant B. Wagle and Ali Al-Safran

Delivery of Halogens to a Subterranean Formation

Granted Patent: U.S. Patent 11,565,544

Grant Date: June 21, 2022

Desmond Schipper, Katherine L. Hull and Younane N. Abousleiman

Conversion of Light Naphtha to Enhanced Value Products in an Integrated Two-Zone Reactor Process

Granted Patent: U.S. Patent 11,565,558

Grant Date: June 21, 2022

Emad N. Al-Shafei, Mohamed Z. Al-Bahar, Manal Eid, Ding Lianhui, Ali N. Al-Jishi and Ki-Hyouk Choi

Configuration for Olefins Production

Granted Patent: U.S. Patent 11,565,561

Grant Date: June 21, 2022

Ujjal Mukherjee, Essam A. Al-Sayed, Pedro Santos, Kareemuddin Shaik, Theodoros Maesen, Mazin Tamimi, Julie Chabot, Ibrahim Abba, Kandasamy Sundaram, Sami Barnawi, Ronald Venner and Abdulrahman Akhras

Drop-in Fuel for Reducing Emissions in Compression-Ignited Engines

Granted Patent: U.S. Patent 11,565,564

Grant Date: June 21, 2022

Nicolas Rankovic, Patrick Gaillard and André Nicolle

Lubricants that Include Alkyl Esters and Fatty Acids

Granted Patent: U.S. Patent 11,565,565

Grant Date: June 21, 2022

Md Amanullah, Jothibasuramasamy and Ali Radhwan

Automated Downhole Flow Control Valves and Systems for Controlling Fluid Flow from Lateral Branches of a Wellbore

Granted Patent: U.S. Patent 11,565,605

Grant Date: June 21, 2022

Ahmed A. Al-Mousa, Ahmed Ghaffar and Omar Al-Hamid

Method and System for Reviving Wells

Granted Patent: U.S. Patent 11,565,607

Grant Date: June 21, 2022

Saad Al-Driweesh

Subterranean Well Torpedo Distributed Acoustic Sensing System and Method

Granted Patent: U.S. Patent 11,565,958

Grant Date: June 21, 2022

Brett W. Bouldin, Michael A. Jervis and Andrey Bakulin

Estimation of Objective Driven Porous Material Mechanical Properties

Granted Patent: U.S. Patent 11,566,049

Grant Date: June 21, 2022

Shouxiang M. Ma, Syed Shujath Ali, Guodong Jin and Hasan Kesserwan

Performing Microwave Measurements on Samples under Confining Pressure Using Coaxial Resonators

Granted Patent: U.S. Patent 11,566,071

Grant Date: June 21, 2022

Oliverio Alvarez

High Temperature High Pressure (HTHP) Cell in Sum Frequency Generation (SFG) Spectroscopy for Oil/Brine Interface Analysis with Reservoir Conditions and Dynamic Compositions

Granted Patent: U.S. Patent 11,566,091

Grant Date: June 21, 2022

Salah H. Al-Saleh, Dongkyu Cha and Ali A. Al-Yousef

Spatially Adaptive Vibrator Sweep Parameter Selection during Seismic Data Acquisition

Granted Patent: U.S. Patent 11,566,241

Grant Date: June 21, 2022

Abdulrahman Alshuhail and Constantinos Tsingas

Fabricating Calcite Nanofluidic Channels

Granted Patent: U.S. Patent 11,566,591

Grant Date: June 21, 2022

Dong K. Cha, Mohammed B. Al-Otaibi and Ali A. Al-Yousef

Multifunctional Composite Catalyst Materials and Methods of Synthesizing the Catalyst Materials

Granted Patent: U.S. Patent 11,569,950

Grant Date: June 28, 2022

Michele L. Ostraat, Brian S. Hanna, Timothy J. Kucharski, Maxim Bukhovko, Ke Zhang and Sergio Fernandez

Systems and Processes for Producing Olefins from Crude Oil

Granted Patent: U.S. Patent 11,570,751

Grant Date: June 28, 2022

Emad N. Al-Shafei, Mohamed Z. Al-Bahar, Ali N. Al-Jishi, Ki-Hyouk Choi, Mohammed Al-Jishi and Ali S. Al-Nasir

Date Tree Waste-Based Compound Fibrous LCMs

Granted Patent: U.S. Patent 11,570,955

Grant Date: June 28, 2022

Md Amanullah

Additives for Oil and Gas Drilling and Production

Granted Patent: U.S. Patent 11,570,954

Grant Date: June 28, 2022

Ashok Santra and Matthew Hilfiger

Nanosilica Dispersion for Thermally Insulating Packer Fluid

Granted Patent: U.S. Patent 11,570,955

Grant Date: June 28, 2022

Vikrant B. Wagle, Abdullah S. Al-Yami, Zainab A. Alsaihati and Abdulaziz Alhelal

Epoxy-Based LCM Compositions with Controlled Viscosity and Methods of Treating a Lost Circulation Zone of a Wellbore

Granted Patent: U.S. Patent 11,570,956

Grant Date: June 28, 2022

Khawlah A. Alanqari, Abdullah S. Al-Yami, Vikrant B. Wagle and Ali Al-Safran

Methods for Designing Coated Proppant in Low Viscosity Carrier Fluid

Granted Patent: U.S. Patent 11,570,962

Grant Date: June 28, 2022

Yanhui Han, Mohammed I. Sayed and Brent Cooper

Processes and Systems for Producing One or More of Benzene, Toluene, or Mixed Xylenes

Granted Patent: U.S. Patent 11,570,975

Grant Date: June 28, 2022

Omer R. Koseoglu, Robert P. Hodgkins and Frederick M. Adam

Steam-Enhanced Catalytic Cracking of Hydrocarbons to Produce Light Olefins

Granted Patent: U.S. Patent 11,570,975

Grant Date: June 28, 2022

Muased S. Al-Ghrami, Aaron Akah and Qi Xu

Recycle Catalytic Reforming Process to Increase Aromatics Yield

Granted Patent: U.S. Patent 11,570,980

Grant Date: June 28, 2022

Omer R. Koseoglu and Robert P. Hodgkins

Lost Circulation Shape Deployment

Granted Patent: U.S. Patent 11,571,501

Grant Date: June 28, 2022

Graham R. Hitchcock and Sakethraman Mahalingam

Liner Hanger System

Granted Patent: U.S. Patent 11,571,504

Grant Date: June 28, 2022

Syed M. Ali and Yassar K. Zia

Robotic Pigging Tool

Granted Patent: U.S. Patent 11,571,519

Grant Date: June 28, 2022

Abdulrahman Al Mulhem, Wael Badeghaish and Mohamed N. Noui-Mehidi

Method and Apparatus for Installing Infield Flexible Liner of Downhole Tubing

Granted Patent: U.S. Patent 11,571,524

Grant Date: June 28, 2022

Wael O. Badeghaish and Mohamed N. Noui-Mehidi

Downhole Pump with Switched Reluctance Motor

Granted Patent: U.S. Patent 11,571,526
Grant Date: June 28, 2022
Val Riachentsev and Jinjiang Xiao

Hydrogen Production by Downhole Electrolysis of Reservoir Brine for Enhanced Oil Recovery

Granted Patent: U.S. Patent 11,571,529
Grant Date: June 28, 2022
Abdulrahman A. Al-Mulhem, Mohammed A. Daous and Hussam A. Bahlouli

Sand Accumulators to Aid Downhole Pump Operations

Granted Patent: U.S. Patent 11,571,532
Grant Date: June 28, 2022
Jinjiang Xiao and Musa Alnafisah

Mapping a Fracture Geometry

Granted Patent: U.S. Patent 11,571,535
Grant Date: June 28, 2022
Hyung T. Kwak, Mahmoud Elsayed, Ammar EL-Husseiny and Mahmoud Mohamed

Applied Cooling for Electronics of Downhole Tool

Granted Patent: U.S. Patent 11,571,538
Grant Date: June 28, 2022
Alexey Alexeyenko

Flow Monitoring Tool

Granted Patent: U.S. Patent 11,571,542
Grant Date: June 28, 2022
Mohammed Al-Khalifa and Jinjiang Xiao

Smart Drilling Motor Stator

Granted Patent: U.S. Patent 11,571,505
Grant Date: June 28, 2022
Victor Costa De Oliveira

Mechanisms and Methods for Closure of a Flow Control Device

Granted Patent: U.S. Patent 11,571,635
Grant Date: June 28, 2022
Brett W. Bouldin, Kenechukwu Ufondu and Robert J. Turner

Methods for Detecting Leakage in Permeability Measurement System

Granted Patent: U.S. Patent 11,571,905
Grant Date: June 28, 2022
Jilin J. Zhang, Hui-Hai Liu and Huangye Chen

Automated Hydrogen Sulfide Sampler

Granted Patent: U.S. Patent 11,571,914
Grant Date: June 28, 2022
Bandar S. Al-Malki, Ali E. Dossary and Mohammed Y. Daif

Electromagnetic Metamaterial Cells, Detectors Comprising the Same, and Methods of their Use

Granted Patent: U.S. Patent 11,571,935
Grant Date: June 28, 2022
Dwight W. Swett

Rule-Based System and Method for Detecting and Identifying Tampering in Security Analysis of Source Code

Granted Patent: U.S. Patent 11,572,974
Grant Date: June 28, 2022
Adnan M. Sawas

Crude Oil Demulsification

Granted Patent: U.S. Patent 11,576,524
Grant Date: July 5, 2022
Mohamed A. Soliman and Nisar A. Ansari

Three-Stage Catalytic Process for Pyrolysis Oil Upgrading to Xylenes

Granted Patent: U.S. Patent 11,577,400
Grant Date: July 5, 2022
Miao Sun, Sohel Shaikh, Ibrahim A. Abba and Zhonglin Zhang

System and Process for Steam Cracking and PFO Treatment Integrating Hydrodealkylation and Naphtha Reforming

Granted Patent: U.S. Patent 11,577,609
Grant Date: July 5, 2022
Qi Xu and Raed Abudawoud

Methods of Suspending Proppants in Hydraulic Fracturing Fluid

Granted Patent: U.S. Patent 11,577,944
Grant Date: July 5, 2022
Ashok Santra and Peter J. Boul

Method for Automated Crack Detection and Analysis Using Ultrasound Images

Granted Patent: U.S. Patent 11,577,945
Grant Date: July 5, 2022
Ahmed Aldabbagh, Kaamil Ur Rahman and Mohamed Shibly

Safety Variable Frequency Drive for Preventing Over Pressurization of a Piping Network

Granted Patent: U.S. Patent 11,577,947
Grant Date: July 5, 2022
Pedro A. Mujica and Herman Cipriano

Valve Bonnet Accessory

Granted Patent: U.S. Patent 11,578,198
Grant Date: July 5, 2022
Mansour Al-Otaibi

Numerical Modeling of Laser Perforating Process

Granted Patent: U.S. Patent 11,578,505
Grant Date: July 5, 2022
Yanhui Han, Yi Fang, Damian San-Roman-Alerigi, Khalid M. Al-Ruwaili and Sameeh I. Batarseh

Genetic Quality of Pick Attribute for Seismic Cubes and Surfaces

Granted Patent: U.S. Patent 11,578,705
Grant Date: July 5, 2022
Sami N. Awfi

Large Depth-of-Investigation Pulsed Neutron Measurements and Enhanced Reservoir Saturation Evaluation

Granted Patent: U.S. Patent 11,578,714
Grant Date: July 5, 2022
Yahia A. Eltaher

Management of Actions and Permissions to Applications in an Enterprise Network

Granted Patent: U.S. Patent 11,579,600
Grant Date: July 5, 2022
Jafar A. Julaih, Hanan A. Dossary and Ibrahim A. Alsalamah

Reservoir Regions Management with Unstructured Grid Reservoir Simulation Model

Granted Patent: U.S. Patent 11,579,640
Grant Date: July 5, 2022
Xiang Y. Ding

Cybersecurity Vulnerability Classification and Remediation Based on Installation Base

Granted Patent: U.S. Patent 11,581,588
Grant Date: July 5, 2022
Sultan S. Alsharif and Wael M. Alagi

Predicting False Positives from Vulnerability Scanners Using Data Analytics and Machine Learning

Granted Patent: U.S. Patent 11,581,590
Grant Date: July 5, 2022
Saeed Al-Saeed and Irsan Siddiq

Membrane Process for H₂ Recovery from Sulfur Recovery Tail Gas Stream of Sulfur Recovery Units and Process for Environmentally Greener Sales Gas

Granted Patent: U.S. Patent 11,585,200
Grant Date: July 12, 2022
Seung-Hak Choi, Sebastien A. Duval, Feras Ahmed and Ahmed J. Al-Talib

Stability Control for Load Transport Vehicles

Granted Patent: U.S. Patent 11,585,775
Grant Date: July 12, 2022
Yasser A. Al-Shaalan

Method of Producing Acryloyl Monomers and Acryloyl-Based Polymers

Granted Patent: U.S. Patent 11,584,176
Grant Date: July 12, 2022
Muhammad Ul-Haq, Manal Al-Eid, Donya A. Al-Sewdan and Abdullah Al-Malki

Manganese-Assisted Waterflooding Processes for Enhanced Oil Recovery in Carbonate Formations

Granted Patent: U.S. Patent 11,584,277
Grant Date: July 12, 2022
Amani O. Alghamdi, Subhash C. Ayirala, Mohammed B. Alotaibi, Sultan M. Enezi and Ali A. Al-Yousef

Adsorption Improved Water in Supercritical CO₂ Encapsulation for Improved Oil Recovery

Granted Patent: U.S. Patent 11,584,280
Grant Date: July 12, 2022
Abdulaziz S. Al-Qasim and Yuguang Wang

Surface Polymerized Proppants

Granted Patent: U.S. Patent 11,584,285
Grant Date: July 12, 2022
Wengang Li, Edreese Alshareah, Ayman Almohsin and Mohammed A. Bataweel

Petrochemical Processing Systems and Methods for Reducing the Deposition and Accumulation of Solid Deposits during Petrochemical Processing

Granted Patent: U.S. Patent 11,584,291
Grant Date: July 12, 2022
Mazin M. Fathi and Ki-Hyouk Choi

Systems and Processes for Treating Disulfide Oil

Granted Patent: U.S. Patent 11,584,294
Grant Date: July 12, 2022
 Mazin M. Fathi and Ki-Hyouk Choi

Systems and Methods for Upgrading Pyrolysis Oil to Light Aromatics over Mixed Metal Oxide Catalysts

Granted Patent: U.S. Patent 11,584,297
Grant Date: July 12, 2022
 Miao Sun, Noor Mana, Sohail Shaikh, Zhonglin Zhang and Fahad Al-Malki

Integrated Process and System for Treatment of Hydrocarbon Feedstocks Using Deasphalting Solvent

Granted Patent: U.S. Patent 11,584,298
Grant Date: July 12, 2022
 Omer R. Koseoglu

Systems and Processes for Upgrading and Converting Crude Oil to Petrochemicals through Steam Cracking

Granted Patent: U.S. Patent 11,584,299
Grant Date: July 12, 2022
 Lianhui Ding, Alberto Ballesteros, Ibrahim AL-Nutaifi and Abdennour Bourane

Integrated Process and System for Treatment of Hydrocarbon Feedstocks Using Deasphalting Solvent

Granted Patent: U.S. Patent 11,584,300
Grant Date: July 12, 2022
 Omer R. Koseoglu

Electrode Material for Electrolytic Hydrogen Generation

Granted Patent: U.S. Patent 11,584,439
Grant Date: July 12, 2022
 Belabbes Merzougui, Bukola S. Abidemi, Mohammad Qamar, Adeola A. Akinpelu and Mohamed N. Noui-Mehidi

System and Method for Dynamic Measurement of Streaming Potential in a Core Plug

Granted Patent: U.S. Patent 11,585,160
Grant Date: July 12, 2022
 Dong Kyu Cha, Subhash C. Ayirala and Ali A. Al-Yousef

Methods for Detecting and Quantifying Tetrakis(Hydroxymethyl)Phosphonium Sulfate (THPS) in Biocide Products

Granted Patent: U.S. Patent 11,585,171
Grant Date: July 12, 2022
 Xiangyang Zhu, Mohammed A. Moniee and Mazen A. Al-Saleh

Stratigraphic Boundaries Identification from Chemostratigraphic Intervals in Well Logs Based on First and Second Derivatives

Granted Patent: U.S. Patent 11,585,214
Grant Date: July 12, 2022
 Nikolaos A. Michael, Neil W. Craigie, Christian Scheibe and Rainer Zuhlke

Online Measurement of Dispersed Oil Phase in Produced Water

Granted Patent: U.S. Patent 11,585,217
Grant Date: July 12, 2022
 Elaf A. Ahmed, Sebastien A. Duval, Simone Less and Ali S. Al-Dossary

System and Method for Aligning a Laser Scanning Device for Measurement of a Volume of a Container

Granted Patent: U.S. Patent 11,585,353
Grant Date: July 12, 2022
 Ali Outa, Fadl H. Abdel Latif, Hassane Trigui and Sahejad Patel

System and Method for Cyber-Physical Inspection and Monitoring of Nonmetallic Structures

Granted Patent: U.S. Patent 11,586,541
Grant Date: July 12, 2022
 Ali Al Shehri, Ahmed Dabbagh, Ayman Amer and Vincent Cunningham

Network Security System and Method for Proactively Identifying or Remediating Security Vulnerabilities

Granted Patent: U.S. Patent 11,588,184
Grant Date: July 12, 2022
 Irlsan Siddiq

Method to Recover Spent Hydroprocessing Catalyst Activity

Granted Patent: U.S. Patent 11,589,790
Grant Date: July 19, 2022
 Omer R. Koseoglu

Assembling and Disassembling a Mechanical Seal

Granted Patent: U.S. Patent 11,589,915
Grant Date: July 19, 2022
 Raed Al-Hadlaq and Darwin G. Gozun

Elastomeric Coatings

Granted Patent: U.S. Patent 11,590,761
Grant Date: July 19, 2022
 Lorenzo Ferrari, Dana K. Adkinson, Jun Yang, Binyu Yu, Maxim Paliy and Brad Kobe

Viscoelastic-Surfactant Fracturing Fluids Having Oxidizer

Granted Patent: U.S. Patent 11,590,796
Grant Date: July 19, 2022
 Katherine L. Hull, Rajesh K. Saini, Desmond E. Schipper and Brady K. Crane

Process to Improve the Stability of Thermally Cracked Petroleum Products

Granted Patent: U.S. Patent 11,590,816
Grant Date: July 19, 2022
 Ki-Hyouk Choi and Mazin M. Fathi

Configuration for Olefins and Aromatics Production

Granted Patent: U.S. Patent 11,590,817
Grant Date: July 19, 2022
 Kareemuddin M. Shaik, Pedro Santos, Essam A. Al-Sayed, Sami Barnawi, Kandasamy Sundaram, Ukkal Mukherjee, Ibrahim A. Abba, Theodoros Maesen, Mazin Tamini, Julie Chabot and Ronald Venner

System and Process for Steam Cracking and PFO Treatment Integrating Hydrodealkylation

Granted Patent: U.S. Patent 11,590,818
Grant Date: July 19, 2022
 Qi Xu and Raed Abudawud

Freeing a Stuck Pipe from a Wellbore

Granted Patent: U.S. Patent 11,591,104
Grant Date: July 19, 2022
 Najeeb I. Al-Abdulrahman, Bandar Al-Malki, Magbel Al-Harbi and Zainab A. Alsaihati

Fluid Management Systems and Related Methods of Controlling Fluid Flow in Oil and Gas Applications

Granted Patent: U.S. Patent 11,591,107
Grant Date: July 19, 2022
 Ahmed A. Al-Mousa, Marius Neacsu and Ahmed A. Al-Ramadhan

Tandem Cement Retainer and Bridge Plug

Granted Patent: U.S. Patent 11,591,115
Grant Date: July 19, 2022
 Ahmed A. Al-Mousa, Marius Neacsu and Ahmed A. Al-Ramadhan

Method and System of Self-Contained Replaceable Filtration Screen with High Performance for Oil and Gas Wells

Granted Patent: U.S. Patent 11,591,125
Grant Date: July 19, 2022
 Ahmed Al-Ghamdi

Turbine Powered Electrical Submersible Pump System

Granted Patent: U.S. Patent 11,591,132
Grant Date: July 19, 2022
 James O. Arukhe, Emeka Agbo, Jaafar Sawad, Fahad Altwimi, Ahmed Al-Malki and Mohannad A. Khamseen

Fracturing a Subsurface Formation Based on the Required Breakdown Pressure

Granted Patent: U.S. Patent 11,591,155
Grant Date: July 19, 2022
 Kaimeing Xia and Tariq Mahmood

Coring while Drilling

Granted Patent: U.S. Patent 11,591,146
Grant Date: July 19, 2022
 Mohammed Y. Al-Daif and Ahmed A. Al-Jaafari

Compression Ignition Engines and Methods for Operating the Same under Cold Start Fast Idle Conditions

Granted Patent: U.S. Patent 11,591,250
Grant Date: July 19, 2022
 Vallinayagam Raman, Yoann Viollet and Junseok Chang

Method to Determine Pore Size Distribution of Rocks with Rough Surface from Capillary Pressure by Nuclear Magnetic Resonance

Granted Patent: U.S. Patent 11,591,683
Grant Date: July 19, 2022
 Jun Gao, Hyung T. Kwak and Marwa M. Sinan

Developing a Three-Dimensional Quality Factor Model of a Subterranean Formation Based on Vertical Seismic Profiles

Granted Patent: U.S. Patent 11,591,855
Grant Date: July 19, 2022
 Hussain S. Nasser and Ali A. Shaikh Sulaiman

Stochastic Dynamic Time Warping for Automated Stratigraphic Correlation

Granted Patent: U.S. Patent 11,591,856
Grant Date: July 19, 2022
Mustafa A. Al Ibrahim

System and Method for Controlling Electrical Power Distribution

Granted Patent: U.S. Patent 11,594,203
Grant Date: July 19, 2022
Wasseem Al-Khardawi

Nickel-Containing Catalyst Composition Having Enhanced Acidity for Bi-Reforming Processes

Granted Patent: U.S. Patent 11,596,006
Grant Date: July 26, 2022
Rami Bamagain, Bandar A. Fadhel, Mohammed A. Albuali and Bandar Solami

Epoxidized Alpha Olefin-Based Anti-Bit Balling Additive for Water-Based Drilling Fluids

Granted Patent: U.S. Patent 11,596,620
Grant Date: July 26, 2022
Vikrant B. Wagle, Jothibasuramasamy, Abdullah S. Al-Yami and Sara A. Alkhalaf

Coated Proppant and Methods of Making and Use Thereof

Granted Patent: U.S. Patent 11,596,625
Grant Date: July 26, 2022
Mohammad H. Haque, Rajesh K. Saini and Mohammed A. Sayed

Low-Pressure Starter Wellhead System for Oil and Gas Applications with Potential Thermal Growth

Granted Patent: U.S. Patent 11,596,785
Grant Date: July 26, 2022
Mohammed Mukhilifi

Isolating a Wellbore with a Wellbore Isolation System

Granted Patent: U.S. Patent 11,596,789
Grant Date: July 26, 2022
Ossama R. Sehsah and Mahmoud A. Al-Qurashi

Systems and Methods to Correct Seismic Data for Undesired Effects Caused by Near Surface Velocity Variations by Correcting for Long-Wavelength Statics

Granted Patent: U.S. Patent 11,597,271
Grant Date: July 26, 2022
Andrei Belonosov, Diego Rovetta and Mikhail Belonosov

Full Waveform Inversion in the Midpoint-Offset Domain

Granted Patent: U.S. Patent 11,597,275
Grant Date: July 26, 2022
Daniele Colombo, Apostolos Kontakis, Ernesto Sandoval-Curiel and Diego Rovetta

Friction Reducer Compositions

Granted Patent: U.S. Patent 11,401,458
Grant Date: August 2, 2022
Wenen Li and Rajesh K. Saini

Cutting a Sidetrack Window in a Cased Wellbore

Granted Patent: U.S. Patent 11,401,763
Grant Date: August 2, 2022
Ahmed A. Al-Mousa, Marius Neacsu and Ahmed A. Al-Ramadhan

Production of Petroleum Pitch

Granted Patent: U.S. Patent 11,401,470
Grant Date: August 2, 2022
Ki-Hyouk Choi, Ali S. Al-Nasir and Ali M. Alsomali

Compensating Changes in Length of a Wellbore String

Granted Patent: U.S. Patent 11,401,773
Grant Date: August 2, 2022
Waheed S. Arshad, Mohammad H. Al-Twajiri and Ahmed M. Al-Omair

In Situ Heating Fluids with Electromagnetic Radiation

Granted Patent: U.S. Patent 11,401,782
Grant Date: August 2, 2022
Sameeh I. Batarseh and Mohamed N. Noui-Mehidi

Systems and Methods for Hydrocarbon Reservoir Well Connectivity Graph Optimization, Simulation and Development

Granted Patent: U.S. Patent 11,401,786
Grant Date: August 2, 2022
Hibah M. Ismail and Tareq M. Shaalan

Systems and Methods to Chemically Liven Dead Wells

Granted Patent: U.S. Patent 11,401,787
Grant Date: August 2, 2022
Ammal Al-Anazi and James O. Arukhe

System and Method for Acquiring Wellbore Data

Granted Patent: U.S. Patent 11,401,796
Grant Date: August 2, 2022
Abdulrahman K. Al-Mulhim, Ahmed Al-Mousa and Hemant K. Shama

Determining Fracture Surface Area in a Well

Granted Patent: U.S. Patent 11,401,803
Grant Date: August 2, 2022
Huseyin O. Balan and Anuj Gupta

System for Installing Insulation Sleeves on Pipelines

Granted Patent: U.S. Patent 11,402,051
Grant Date: August 2, 2022
Guillaume Raynel and Thibault Villette

Identifying Geologic Features in a Subterranean Formation Using Seismic Diffraction and Refraction Imaging

Granted Patent: U.S. Patent 11,402,529
Grant Date: August 2, 2022
Hongwei Liu and Yi Luo

H₂S Gas Scrubbing and Monitoring System for Laboratory Applications

Granted Patent: U.S. Patent 11,406,936
Grant Date: August 9, 2022
Mohammed T. Aljuaid, Fahad A. Alhamad, Finbarr B. Healy, Mike Ponstingl, Bandar M. Almosa and Mohammed S. Aljawfi

Thin Film Composite Hollow Fiber Membranes Fabrication Systems

Granted Patent: U.S. Patent 11,406,941
Grant Date: August 9, 2022
Seung-Hak Choi, Melhan M. Sultan, Halah A. Sulaiman and Abdulrahman A. Alsuwailam

Process for Producing Nitrile Rubbers Using Ruthenium Complex Catalysts

Granted Patent: U.S. Patent 11,407,845
Grant Date: August 9, 2022
Werner Obrecht, Sarah David and Hiyam Salem

Cross-Linked Polymeric Materials and Articles

Granted Patent: U.S. Patent 11,407,850
Grant Date: August 9, 2022
Haleema A. Al-Amri and Maryah Almaghrabi

Additives for Oil and Gas Drilling and Production

Granted Patent: U.S. Patent 11,407,927
Grant Date: August 9, 2022
Ashok Santra and Matthew Hilfinger

Process for Mixing Dilution Steam with Liquid Hydrocarbons before Steam Cracking

Granted Patent: U.S. Patent 11,407,950
Grant Date: August 9, 2022
Dennis Maloney, Kandasamy Sundaram, Raghu Narayan and Abdul Rahman Z. Akhras

Method of Producing a Fuel Additive

Granted Patent: U.S. Patent 11,407,952
Grant Date: August 9, 2022
Guillermo Leal, Mohammed B. Ansari, Kareemuddin M. Shaik, Hiren Shethna and Zhonglin Zhang

Lubricant Formulation for Multiple Water-Based Muds

Granted Patent: U.S. Patent 11,407,956
Grant Date: August 9, 2022
Md Amanullah, Jothibasuramasamy and Ali Radhwan

Acid Fracturing Treatments in Hydrocarbon-Bearing Formations in Close Proximity to Wet Zones

Granted Patent: U.S. Patent 11,408,261
Grant Date: August 9, 2022
Moataz M. Al-Harbi

Assembly, Indicating Device, and Method for Indicating Window Milling in a Well

Granted Patent: U.S. Patent 11,408,277
Grant Date: August 9, 2022
Julio C. Guzman

Reciprocating Spray Cleaning System for Air-Cooled Heat Exchangers

Granted Patent: U.S. Patent 11,408,694
Grant Date: August 9, 2022
Abdullah M. Al-Otaibi

Stuck-Ball Method to Delineate Gelation Time

Granted Patent: U.S. Patent 11,408,809
Grant Date: August 9, 2022
Mohamad M. Fahmi and Abdulkareem M. Al-Sofi

Methods and Systems for Determining Residual Fluid Saturation of a Subsurface Formation

Granted Patent: U.S. Patent 11,408,811
Grant Date: August 9, 2022
Quan Chen, Subhash C. Ayirala and Ali A. Al-Yousef

Systems and Methods for Monitoring Health of Core Samples

Granted Patent: U.S. Patent 11,408,856
Grant Date: August 9, 2022
 Osama A. Abdelhamid

Frequency-Based Method for Reducing the Effect of Multiples in Seismic Data

Granted Patent: U.S. Patent 11,409,012
Grant Date: August 9, 2022
 Mohammed B. Gubair and Maher Al Marhoon

Methods and Systems for Generating Graph Neural Networks for Reservoir Grid Models

Granted Patent: U.S. Patent 11,409,015
Grant Date: August 9, 2022
 Marko Maucec, Ridwan S. Jalali and Mubarak N. Dossary

Star-Branched Diene Rubber

Granted Patent: U.S. Patent 11,414,509
Grant Date: August 16, 2022
 Norbert Steinhauser and Peter Karbaum

Viscosity Supporting Additive for Water-Based Drilling and Completions Fluids

Granted Patent: U.S. Patent 11,414,584
Grant Date: August 16, 2022
 Ashok Santra, Hasmukh Patel and Carl J. Thaeplitz

Method of Producing a Fuel Additive

Granted Patent: U.S. Patent 11,414,611
Grant Date: August 16, 2022
 Kareemuddin M. Shaik, Hiren Shethna, Zhonglin Zhang, Leal Guillermo and Mohammed B. Ansari

Drilling Bottom-Hole Methods for Loss Circulation Mitigation

Granted Patent: U.S. Patent 11,414,953
Grant Date: August 16, 2022
 Khalifah Al-Amri, Abdulrahman Al-Essa and Shaohua Zhou

Packer Installation Systems and Related Methods

Granted Patent: U.S. Patent 11,414,942
Grant Date: August 16, 2022
 Hany Yahya and Mario Rivas

Smart Choke Valve to Assess and Regulate Production Flow

Granted Patent: U.S. Patent 11,414,954
Grant Date: August 16, 2022
 Abdulrahman S. Ahmari

Well Cleaning Tools and Related Methods of Cleaning Wells in Oil and Gas Applications

Granted Patent: U.S. Patent 11,414,961
Grant Date: August 16, 2022
 Mustafa Huwaidar, Shouxiang M. Ma and Nader Al-Hwety

Wellbore Fluid Level Monitoring System

Granted Patent: U.S. Patent 11,414,963
Grant Date: August 16, 2022
 Bodong Li, Chinthaka Pasan, Guodong (David) Zhan and Timothy E. Moellendick

Method and System for Subsurface to Subsurface Water Injection

Granted Patent: U.S. Patent 11,414,968
Grant Date: August 16, 2022
 Abdullah Al-Muraihi

Methods and Materials for Reducing Lost Circulation in a Wellbore

Granted Patent: U.S. Patent 11,414,971
Grant Date: August 16, 2022
 Simone Musso and Sivaprakash Shanmugam

Methods and Apparatus for Spatially Oriented Chemically Induced Pulsed Fracturing in Reservoirs

Granted Patent: U.S. Patent 11,414,972
Grant Date: August 16, 2022
 Ayman R. Al-Nakhli and Sameeh I. Batarseh

Quantifying Well Productivity and Near Wellbore Flow Conditions in Gas Reservoirs

Granted Patent: U.S. Patent 11,414,975
Grant Date: August 16, 2022
 Ghazi D. Al-Qahtani, Shahid Manzoor and Faisal H. Al-Naseef

Charging and Communication Interface for Drill Bit Nozzle-Based Sensing System

Granted Patent: U.S. Patent 11,414,980
Grant Date: August 16, 2022
 Bodong Li, Abrar Alshaikh, Guodong (David) Zhan, Chinthaka P. Gooneratne and Timothy E. Moellendick

Measuring Wellbore Cross-Sections Using Downhole Caliper Tools

Granted Patent: U.S. Patent 11,414,984
Grant Date: August 16, 2022
 Bandar Malki, Bodong Li and Timothy E. Moellendick

Measuring Wellbore Cross-Sections Using Downhole Caliper Tools

Granted Patent: U.S. Patent 11,414,985
Grant Date: August 16, 2022
 Bandar Malki, Bodong Li and Timothy E. Moellendick

Detecting Carbon Dioxide Leakage in the Field

Granted Patent: U.S. Patent 11,414,986
Grant Date: August 16, 2022
 Dong K. Cha, Mohammed B. Al-Otaibi, Subhash C. Ayirala, Zuhair Al-Yousif and Ali A. Al-Yousef

Robotic Inspection Device for Tank and Pipe Inspections

Granted Patent: U.S. Patent 11,415,260
Grant Date: August 16, 2022
 Amer D. Hajri, Rashid D. Hajri, Fikri A. Suwailih and Kazem H. Musabbah

Edge-Preserving Gaussian Grid Smoothing of Noise Components in Subsurface Grids to Generate Geological Maps

Granted Patent: U.S. Patent 11,415,717
Grant Date: August 16, 2022
 Abdullah A. Theyab

Method of Application of Polarization Filtering on Single Component Seismic Data for Interface Wave Noise Attenuation

Granted Patent: U.S. Patent 11,415,719
Grant Date: August 16, 2022
 Mamadou S. Diallo

Secure Communication Application Registration Process

Granted Patent: U.S. Patent 11,416,586
Grant Date: August 16, 2022
 Abdullah A. Zahrani, Ibrahim S. Omari, Khalid M. Moashee, Hassan A. Ayoub and Meshal I. Alhazmi

Hydrogen Sulfide-Carbon Dioxide Membrane Separation Systems and Processes

Granted Patent: U.S. Patent 11,420,155
Grant Date: August 23, 2022
 Milind Vaidya, Sebastien A. Duval, Feras Hamad, Richard Baker, Tim Merkel, Kaeed Lokhandwala, Ahmed A. Bahamdan and Faisal D. Al-Otaibi

Process of Improved Sulfur Capture from a Syngas Mixture

Granted Patent: U.S. Patent 11,420,155
Grant Date: August 23, 2022
 Milind Vaidya, Sebastien A. Duval, Feras Hamad, Richard Baker, Tim Merkel, Kaeed Lokhandwala, Ahmed A. Bahamdan and Faisal D. Al-Otaibi

Hydrocracking Catalysts Containing Rare Earth Containing Post-Modified USY Zeolite, Method for Preparing Hydrocracking Catalysts, and Methods for Hydrocracking Hydrocarbon Oil with Hydrocracking Catalysts

Granted Patent: U.S. Patent 11,420,192
Grant Date: August 23, 2022
 Omer R. Koseoglu, Robert P. Hodgkins, Mitsunori Watabe and Koji Uchida

Red Mud as a Catalyst for the Isomerization of Olefins

Granted Patent: U.S. Patent 11,420,915
Grant Date: August 23, 2022
 Bandar A. Fadhel, Mohammed A. Albuali, Munir D. Khokhar, Rami Bamagain and Thamer A. Mohammed

Treatment of Epoxidized Unsaturated Isoolefin Copolymers

Granted Patent: U.S. Patent 11,421,052
Grant Date: August 23, 2022
 Paul Nguyen, Treena Crockett, Gregory J.E. Davidson and Sharon Guo

Nanosheet Polymer Composite for Water Shutoff

Granted Patent: U.S. Patent 11,421,141
Grant Date: August 23, 2022
 Ayman Almohsin, Edreese Alsharaeh and Feven M. Michael

Injection of Tailored Water Chemistry to Mitigate Foaming Agents Retention on Reservoir Formation Surface

Granted Patent: U.S. Patent 11,421,148
Grant Date: August 23, 2022
 Zuhair AlYousif, Muhammad Al-Majid and Subhash C. Ayirala

Hyperbranched Polymers with Active Groups as Efficient Corrosion Inhibitors

Granted Patent: U.S. Patent 11,421,526
Grant Date: August 23, 2022
 Muhammad Ul-Haq, Abdullah Al-Malki, Donya A. Al-Sewdan and Nayef M. Al-Anazi

Method and Apparatus of Smart Landing Nipple System

Granted Patent: U.S. Patent 11,421,492
Grant Date: August 23, 2022
 Mario Rivas and Monty Gilleland

Filter Tools and Methods of Filtering a Drilling Fluid

Granted Patent: U.S. Patent 11,421,494
Grant Date: August 23, 2022
 Ahmed Al-Bayat and Omar Al-Hamid

Freeing a Stuck Pipe from a Wellbore

Granted Patent: U.S. Patent 11,421,497
Grant Date: August 23, 2022
 Najeeb I. Al-Abdulrahman, Bandar Al-Malki, Magbel Al-Harbi and Zainab A. Alsaihati

Wellhead Telescopic Adaptor for Wellhead Assembly

Granted Patent: U.S. Patent 11,421,502
Grant Date: August 23, 2022
 Marius Neacsu, Ahmed A. Al-Ramadhan and Ahmed A. Al-Mousa

Reinforcing Wellbores Prior to Casing and Cementing

Granted Patent: U.S. Patent 11,421,507
Grant Date: August 23, 2022
 Mohammed Subahi

Downhole Tool Assemblies for Drilling Wellbores and Methods for Operating the Same

Granted Patent: U.S. Patent 11,421,510
Grant Date: August 23, 2022
 Mohammed M. Al-Otaibi

Removing Obstructions in a Drill Bit

Granted Patent: U.S. Patent 11,421,512
Grant Date: August 23, 2022
 Victor Bustamante, Sajid Hussain and Peter I. Egbe

Triboelectric Energy Harvesting with Pipe-in-Pipe Structure

Granted Patent: U.S. Patent 11,421,515
Grant Date: August 23, 2022
 Chinthaka P. Gooneratne, Subhas Mukhopadhyay, Bodong Li, Guodong (David) Zhan, Arturo Magana-Mora and Timothy E. Moellendick

Monitoring the Condition of a Drillstring

Granted Patent: U.S. Patent 11,421,524
Grant Date: August 23, 2022
 Roberto C. Duran

Measuring Water Content of Petroleum Fluids Using Dried Petroleum Fluid Solvent

Granted Patent: U.S. Patent 11,422,122
Grant Date: August 23, 2022
 Guillaume Raynel

Method and System for Estimating Borehole Condition Using Stoneley Measurement

Granted Patent: U.S. Patent 11,422,279
Grant Date: August 23, 2022
 Osman Hamid, Oliver Skelton and Mohammed A. Mohiuddin

Nanofluidic Chips as Micromodels for Carbonate Reservoirs

Granted Patent: U.S. Patent 11,422,285
Grant Date: August 23, 2022
 Wei Wang and Sehoon Chang

Potassium-Promoted Red Mud as a Catalyst for Forming Hydrocarbons from Carbon Dioxide

Granted Patent: U.S. Patent 11,426,708
Grant Date: August 30, 2022
 Bandar H. Alsolami, Artem Russkikh, Adrian Ramirez, Genrikh Shterk, Jorge Gascon and Bandar A. Fadhel

Pipe Cutting Tool

Granted Patent: U.S. Patent 11,426,809
Grant Date: August 30, 2022
 Ossama R. Sehsah, Muhammad Muqem and Fauzia Waluyo

Method of Producing a Fuel Additive

Granted Patent: U.S. Patent 11,427,518
Grant Date: August 30, 2022
 Kareemuddin M. Shaik, Hiren Shethna, Zhonglin Zhang, Leal Guillermo, Naif Mohammed Al-Naddah and Mohammed B. Ansari

Acid Modified Red Mud as a Catalyst for Olefin Isomerization

Granted Patent: U.S. Patent 11,427,519
Grant Date: August 30, 2022
 Bandar A. Fadhel, Mohammed A. Albuali, Munir D. Khokhar and Rami Bamagain

Fluorescent Dye Loaded Polymeric Taggants for Depth Determination in Drilling Wells

Granted Patent: U.S. Patent 11,427,742
Grant Date: August 30, 2022
 Nouf Jabri, Sherry S. Zhu, Marta Antoniv and Alberto F. Marsala

Cationic Nitrogen-Containing Heterocycles and their Application in Wellbore Stability

Granted Patent: U.S. Patent 11,427,745
Grant Date: August 30, 2022
 Hasmukh A. Patel and Carl J. Thaemlitz

Waste Vegetable Oil-Based Emulsifier for Invert Emulsion Drilling Fluid

Granted Patent: U.S. Patent 11,427,744
Grant Date: August 30, 2022
 Jothibasu Ramasamy, Md Amanullah and Mujtaba M. Al-Saihati

Methods for Producing Seawater-Based, High Temperature Viscoelastic Surfactant Fluids with Low Scaling Tendency

Granted Patent: U.S. Patent 11,427,752
Grant Date: August 30, 2022
 Leiming Li, Feng Liang and Tao Chen

Wellbore Underreaming

Granted Patent: U.S. Patent 11,428,049
Grant Date: August 30, 2022
 Ossama R. Sehsah, Abdulrahman K. Aleid, Ahmad A. Amoudi and Sallal A. Aldawsari

Bottom-Hole Assemblies with Expandable Cladding Sheaths for Drilling Ahead through a Lost Circulation Zone of a Wellbore

Granted Patent: U.S. Patent 11,428,051
Grant Date: August 30, 2022
 Onos S. Ogelohwohor

System and Method for Controlling Annular Well Pressure

Granted Patent: U.S. Patent 11,428,069
Grant Date: August 30, 2022
 Michael A. Affleck and Ian Allan

System and Method of Distributed Sensing in Downhole Drilling Environments

Granted Patent: U.S. Patent 11,428,075
Grant Date: August 30, 2022
 Chinthaka P. Gooneratne, Subhas Mukhopadhyay, Bodong Li, Guodong (David) Zhan, Arturo Magana-Mora and Timothy E. Moellendick

Boosting Production from Low Pressure or Dead Wells

Granted Patent: U.S. Patent 11,428,082
Grant Date: August 30, 2022
 Hesham D. Al-Wadie

Pumping Hydrocarbon Fluids from a Well

Granted Patent: U.S. Patent 11,428,085
Grant Date: August 30, 2022
 Amr M. Zahran

Downhole Investigation Tool

Granted Patent: U.S. Patent 11,428,095
Grant Date: August 30, 2022
 Bander S. Al-Malki, Oscar Sayago and Apostolos Chomatias

Automated Sedimentary Fairway Definition and Approach for Calculating Sediment Input and Output Location Parameters per Area of Interest

Granted Patent: U.S. Patent 11,428,098
Grant Date: August 30, 2022
 Nikolaos A. Michael

Automated Real-Time Drilling Fluid Density

Granted Patent: U.S. Patent 11,428,099
Grant Date: August 30, 2022
 Mohammed M. Al-Rubaii, Abdullah S. Al-Yami and Salem Al-Gharbi

Process Integration for Natural Gas Liquid Recovery

Granted Patent: U.S. Patent 11,428,464
Grant Date: August 30, 2022
 Mahmoud B. Noureldin, Akram H. Kamel and Abdulaziz A. Al-Najjar

Determining Fluid Properties

Granted Patent: U.S. Patent 11,428,557
Grant Date: August 30, 2022
 Keelan Thomas O'Neil, Michael Leslie Johns, Einar Orn Fridjonsson, Paul Stanwix, Jana M. Al-Jindan and Mohamed N. Noui-Mehidi

Mono-Planar Sealed Beam Alignment Device

Granted Patent: U.S. Patent 11,428,571
Grant Date: August 30, 2022
 John D. Reece II

Intelligent Distributed Industrial Facility Safety System Inter-Device Data Communication

Granted Patent: U.S. Patent 11,429,078
Grant Date: August 30, 2022
 Mohammed Al-Juaid and Mohammed Makhdoum

Fire Water Network Leak Detection System*Granted Patent: U.S. Patent 11,452,054**Grant Date: August 30, 2022*

Dadasaheb Karande and Arun Jain

Methods of Making Zeolite-Templated Carbon Pellets and Uses Thereof*Granted Patent: U.S. Patent 11,455,375**Grant Date: September 6, 2022*

Rashid M. Othman, Seokin Choi, Yuguo Wang and Minkee Choi

Modified USY Zeolitic Catalyst for Isomerization of Alkylated Aromatics, and Method for Isomerization of Alkylated Aromatics*Granted Patent: U.S. Patent 11,455,379**Grant Date: September 6, 2022*

Omer R. Koseoglu and Robert P. Hodgkins

Process and Means for Decomposition of Sour Gas and Hydrogen Generation*Granted Patent: U.S. Patent 11,454,152**Grant Date: September 6, 2022*

Mourad Younes, Aadesh Harale and Maytham Musawi

Utilization of Heavy Oil Fly Ash to Produce Controlled Low Strength Material for Backfilling Applications*Granted Patent: U.S. Patent 11,454,168**Grant Date: September 6, 2022*

Zakariya Helal and Carlos Acero

Rapidly Dehydrating Lost Circulation Material (LCM)*Granted Patent: U.S. Patent 11,454,404**Grant Date: September 6, 2022*

Md Amanullah

Additives for Oil and Gas Drilling and Production*Granted Patent: U.S. Patent 11,454,405**Grant Date: September 6, 2022*

Ashok Santra and Matthew Hilfiger

Rheology Modifier with a Fatty Alcohol for Organoclay-Free Invert Emulsion Drilling Fluid Systems*Granted Patent: U.S. Patent 11,454,407**Grant Date: September 6, 2022*

Vikrant B. Wagle, Jothibasu Ramasamy and Abdullah S. Al-Yami

Terpene-Based Spotting Fluid Compositions for Differential Sticking*Granted Patent: U.S. Patent 11,454,408**Grant Date: September 6, 2022*

Matthew Hilfiger and Carl J. Thaemlitz

Water Shutoff Using Acid Soluble Cement with Polymer Gels*Granted Patent: U.S. Patent 11,454,409**Grant Date: September 6, 2022*

Abdullah M. Al-Dhafeeri

Graphene Oxide Janus Nanosheets Relative Permeability Modifier (RPM) for Reducing Subterranean Formation Water Permeability in Carbonate Formations*Granted Patent: U.S. Patent 11,454,411**Grant Date: September 6, 2022*

Jin Huang, Wengang Li and Feng Liang

Fluorinated Aromatic Compound as Refinery Corrosion Inhibitor*Granted Patent: U.S. Patent 11,454,415**Grant Date: September 6, 2022*

Muthukumar Nagu and Nayef M. Alanazi

Processes for Producing Petrochemical Products that Utilize Fluid Catalytic Cracking of a Greater Boiling Point Fraction with Steam*Granted Patent: U.S. Patent 11,454,452**Grant Date: September 6, 2022*

Musaed S. Al-Ghrami, Aaron Akah and Abdenmour Bourane

Method and System for the Control of Water Concentration in Crude Oil Entering the Dehydrators*Granted Patent: U.S. Patent 11,454,456**Grant Date: September 6, 2022*

Guillaume Raynel, Debora Marques and Olanrewaju M. Oshinowo

Disconnecting a Stuck Drillpipe*Granted Patent: U.S. Patent 11,454,700**Grant Date: September 6, 2022*

Ali Al-Meqbel, Abdulrahman Al-Musare and Fahad Al-Qahtani

Lost Circulation Fabric, Method, and Deployment Systems*Granted Patent: U.S. Patent 11,454,708**Grant Date: September 6, 2022*

Jothibasu Ramasamy and Bodong Li

Self-Winding Power Generating Systems and Methods for Downhole Environments*Granted Patent: U.S. Patent 11,454,726**Grant Date: September 6, 2022*

Chinthaka P. Gooneratne and Bodong Li

Optimization of Discrete Fracture Network (DFN) Using Streamlines and Machine Learning*Granted Patent: U.S. Patent 11,454,759**Grant Date: September 6, 2022*

Anwar R. Awan, Otto E. Meza Camargo, Mustafa Amari and Marei Al-Garni

Real-Time Gas Measurement Sub*Granted Patent: U.S. Patent 11,454,760**Grant Date: September 6, 2022*

Mohammed M. Al-Otaibi

Lost Circulation Fabric, Method, and Deployment Systems*Granted Patent: U.S. Patent 11,454,707**Grant Date: September 6, 2022*

Bodong Li, Jothibasu Ramasamy, Chinthaka Pasan and Guodong (David) Zhan

Adjustable Seal for Sealing a Fluid Flow at a Wellhead*Granted Patent: U.S. Patent 11,454,714**Grant Date: September 6, 2022*

Krzysztof K. Machocki

Method for Coring that Allows the Preservation of in Situ Soluble Salt Cements within Subterranean Rocks*Granted Patent: U.S. Patent 11,454,718**Grant Date: September 6, 2022*

Abdulmohsin Almansor and Paul Tarabba

Tubing Casing Annulus Valve*Granted Patent: U.S. Patent 11,454,719**Grant Date: September 6, 2022*

Yousif Al-Abdulmohsin and Haidar Al-Hajji

Cyclic Wellbore Fracturing*Granted Patent: U.S. Patent 11,454,758**Grant Date: September 6, 2022*

Gang Han, Munir Aldin and Sau-Wai Wong

Equal-Walled Gerotor Pump for Wellbore Applications*Granted Patent: U.S. Patent 11,454,905**Grant Date: September 6, 2022*

Rafael A. Lastra and Jinjiang Xiao

Continuous Mud Rheology Monitoring*Granted Patent: U.S. Patent 11,455,274**Grant Date: September 6, 2022*

Graham R. Hitchcock and Michael A. Affleck

Seismic Surveys Using Two-Way Virtual Source Redatuming*Granted Patent: U.S. Patent 11,455,490**Grant Date: September 6, 2022*

Houzhou Zhang and Yang Zhao

Wave Velocity Determination for Seismic Imaging*Granted Patent: U.S. Patent 11,455,491**Grant Date: September 6, 2022*

Mustafa N. Ali, Hongwei Liu, Tong W. Fei and Yi Luo

System and Method for Provisioning Non-Enterprise Client Devices with Access Credentials*Granted Patent: U.S. Patent 11,456,514**Grant Date: September 6, 2022*

Abdullah Zahrani, Ibrahim Alomari, Jewahir Abubeker, Hassan Ayoub and Meshal Alhazmi

In-Vehicle Intelligent Access Control System and Method*Granted Patent: U.S. Patent 11,456,885**Grant Date: September 6, 2022*

Hussain A. Al-Hazmi

Adjustable Motor Drive*Granted Patent: U.S. Patent 11,457,884**Grant Date: September 6, 2022*

Yoshio Sekitani and Hussain A. Balfagih

Method and System for Prioritizing and Remediating Security Vulnerabilities Based on Adaptive Scoring*Granted Patent: U.S. Patent 11,458,562**Grant Date: September 6, 2022*

Eidan K. Aleidan

Method and System for Preventing Medium Access Control (MAC) Spoofing Attacks in a Communication Network*Granted Patent: U.S. Patent 11,458,575**Grant Date: September 6, 2022*

Baraka Mutairi, Wail Ghanmi and Abdulmajeed Omair

Desalination Membranes

Granted Patent: U.S. Patent 11,459,957
Grant Date: September 13, 2022
 Umair Baig, Turki Nabieh Baroud and Hasan Al-Abdulgader

Catalyst Compositions for Aromatizing Hydrocarbons and Processes for Producing Aromatic Compounds Using the Catalyst Compositions

Granted Patent: U.S. Patent 11,459,991
Grant Date: September 13, 2022
 Arudra Palani, Mohammad N. Akhtar, Abdullah M. Aitani, Yaming Jin and Omer R. Koseoglu

Catalyst Systems

Granted Patent: U.S. Patent 11,440,857
Grant Date: September 13, 2022
 Motaz Khawaji, Sohel Shaikh and Wei Xu

Methods for Forming Ultra-High Molecular Weight Polyethylenes and Methods for Reducing Contaminant Content in Such

Granted Patent: U.S. Patent 11,440,980
Grant Date: September 13, 2022
 Motaz Khawaji, Faisal Melibari, Hussein Al-Yami and Wei Xu

Water-Based Drilling Fluid Compositions and Methods for Drilling Subterranean Wells

Granted Patent: U.S. Patent 11,441,061
Grant Date: September 13, 2022
 Md Amanullah, Raed A. Alouhali, Sara A. Alkhalaf, Ali Radhwan, Mohammed K. Al-Arfaj and Abdulaziz S. Al-Qasim

Method to Remove Wellbore Damage Using Thermochemical Fluid

Granted Patent: U.S. Patent 11,441,065
Grant Date: September 13, 2022
 Ayman R. Al-Nakhli, Rayed M. Zayer and Ahmad S. Busaleh

Method for Improving Aquifer Remediation Using in Situ Generated Nitrogen Foam

Granted Patent: U.S. Patent 11,441,069
Grant Date: September 13, 2022
 Zuhair AlYousif and Ali A. Al-Taq

Pressure Bleed-Off Module for Oil and Gas Wells

Granted Patent: U.S. Patent 11,441,586
Grant Date: September 13, 2022
 Jawad Zahur, Nadeem A. Warraich and Muhammad Al-Hajri

Method of Securing a Well with Shallow Leak in Upward Cross Flow

Granted Patent: U.S. Patent 11,441,587
Grant Date: September 13, 2022
 Mohamed E. Nekhily and Ibrahim A. Al-Obaidi

Multilevel Production Control for Complex Network of Wells with Smart Completions

Granted Patent: U.S. Patent 11,441,590
Grant Date: September 13, 2022
 Ghazi D. Al-Qahtani

Automated Production Optimization Technique for Smart Well Completions Using Real-Time Modal Analysis Including Real-Time Modeling

Granted Patent: U.S. Patent 11,441,595
Grant Date: September 13, 2022
 Amer Alanazi, Abdulaziz S. Al-Qasim and Ahmed Y. Bukhamseen

Sheath Encapsulation to Convey Acid to Formation Fracture

Granted Patent: U.S. Patent 11,441,407
Grant Date: September 13, 2022
 Gregory Rowland

Cooling Downhole Equipment

Granted Patent: U.S. Patent 11,441,416
Grant Date: September 13, 2022
 Ismail A. Adebijiyi, Ziyad Alsahlawi and Ossama R. Sehsah

Use of Ozone with LNT and MnO₂ Catalyst for the Treatment of Residual Pollutant for the Exhaust Gas of an Internal Engine Combustion

Granted Patent: U.S. Patent 11,441,464
Grant Date: September 13, 2022
 Emmanuel Laigle, Christophe Chaillou, Caroline Norsic and Andre Nicolle

Valve Diagnostic and Performance System

Granted Patent: U.S. Patent 11,441,697
Grant Date: September 13, 2022
 Essam A. Al-Arfaj and Pablo D. Genta

Optimized Database Migration for Large Systems between Platforms with Different Endianness

Granted Patent: U.S. Patent 11,442,908
Grant Date: September 13, 2022
 Amro F. Sagga, Mohammad J. Mumen, Alaa Zarban, Mustafa Al-Gafili and Marwan Al-Muhaiteeb

Nonmetallic Laterals for Filtration and Water Treatment

Granted Patent: U.S. Patent 11,446,591
Grant Date: September 20, 2022
 Rakan W. Banna, Ahmed M. Orfali, Imran A. Khan, Ensan M. Elayoubi, Abdulaziz Y. Asiri and Mirza M. Baig

Zoned Fluidization Process for Catalytic Conversion of Hydrocarbon Feedstocks to Petrochemicals

Granted Patent: U.S. Patent 11,446,625
Grant Date: September 20, 2022
 Jorge Gascon, Youssef Siah, Jullian Vittenet, Lieven Gevers, Wei Xu, Isidoro Morales and Ola S. Ali

FCC Catalyst Compositions for Fluid Catalytic Cracking and Methods of Using the FCC Catalyst Compositions

Granted Patent: U.S. Patent 11,446,645
Grant Date: September 20, 2022
 Omer R. Koseoglu, Yaming Jin, Masaru Ushio and Sieji Arakawa

Asphaltene Solution for Water Shutoff

Granted Patent: U.S. Patent 11,447,685
Grant Date: September 20, 2022
 Ahmad N. Rizq

Enhancing Rheological Properties of Foam Using Aloe-Barbadensis Gel

Granted Patent: U.S. Patent 11,447,687
Grant Date: September 20, 2022
 Hana Almatouq, Zuhair AlYousif and Amin Alabdulwahab

Surface Smoothing of Copper by Electropolishing

Granted Patent: U.S. Patent 11,447,887
Grant Date: September 20, 2022
 Fayez N. Ai-Rowaili, Mazen Khaled, Aqil Jamal and Sagheer A. Onaizi

Casing Friction Reduction Methods and Tool

Granted Patent: U.S. Patent 11,448,016
Grant Date: September 20, 2022
 Abdulaziz S. Al-Qasim, Mohammed K. Al-Arfaj, Mohammed Al-Badran and Sunil L. Kokal

Mitigating Drilling Circulation Loss

Granted Patent: U.S. Patent 11,448,021
Grant Date: September 20, 2022
 Shaohua Zhou

Cable Head for a Wireline Tool

Granted Patent: U.S. Patent 11,448,026
Grant Date: September 20, 2022
 Ahmed Al-Mousa, Marius Neacsu and Omar Al-Hamid

Acid Wash System for Wireline and Slickline

Granted Patent: U.S. Patent 11,448,027
Grant Date: September 20, 2022
 Mohammed Y. Al-Daif and Ahmed A. Al-Jaafari

Milling Packers Below Restrictions in a Wellbore Casing

Granted Patent: U.S. Patent 11,448,028
Grant Date: September 20, 2022
 Ahmed A. Al-Mousa, Enrique A. Fauli and Ahmed A. Al-Ramadhan

Removable Plugging Method and Apparatus

Granted Patent: U.S. Patent 11,448,054
Grant Date: September 20, 2022
 Robert J. Turner and Brett W. Bouldin

Smart Completion Maximum Reservoir Contact (MRC) Well Optimization Model

Granted Patent: U.S. Patent 11,448,046
Grant Date: September 20, 2022
 Mohieddin Alghazali

Cement and Anti-Corrosion Fluid for Casing Isolation

Granted Patent: U.S. Patent 11,448,052
Grant Date: September 20, 2022
 Sara A. Alkhalaf, Bandar Almaliki, Chinthaka P. Gooneratne and Abdullah S. Al-Yami

Integrated Methods for Reducing Formation Breakdown Pressures to Enhance Petroleum Recovery

Granted Patent: U.S. Patent 11,448,054
Grant Date: September 20, 2022
 Misfer Almarri, Waheed Arshad and Adel A. Al-Qahtani

Production Logging Tool

Granted Patent: U.S. Patent 11,448,059
Grant Date: September 20, 2022
 Jose Rueda, Almaz Sadykov and Karim Mechkak

Method and System for Monitoring and Preventing Hydrate Formations

Granted Patent: U.S. Patent 11,448,060
Grant Date: September 20, 2022
 Sameeh I. Batarseh

Monitoring Downhole Leaks

Granted Patent: U.S. Patent 11,448,061
Grant Date: September 20, 2022
 Mohieddin A. Al-Ghazali and Ibrahim E. Salem

Slug Flow Monitoring and Gas Measurement

Granted Patent: U.S. Patent 11,448,618
Grant Date: September 20, 2022
 Talha J. Ahmad, Michael J. Black and Mohamed N. Noui-Mehidi

Method for Screening EOR Agents Effects on Reservoir Rock Wettability: An in Situ Contact Angle Measurement

Granted Patent: U.S. Patent 11,448,635
Grant Date: September 20, 2022
 Salah H. Al-Saleh, Ahmed Gmira and Ali A. Al-Yousef

Full Waveform Inversion Using Time Delayed Seismic Data

Granted Patent: U.S. Patent 11,448,784
Grant Date: September 20, 2022
 Jewoo Yoo and Roald Van Borselen

Methods and Seismic Shot Generation and Data Collection Systems Utilizing Refraction in Horizontal Stratified Media for Monotonically Increased Velocity Determinations

Granted Patent: U.S. Patent 11,448,785
Grant Date: September 20, 2022
 Yue Ma, Yi He, Tong W. Fei and Yi Luo

Generating Enhanced Seismic Velocity Models Using Geomechanical Modeling

Granted Patent: U.S. Patent 11,448,788
Grant Date: September 20, 2022
 Rajesh Goteti and Hyoungsu Baek

Algorithm for Cost-Effective Thermodynamic Fluid Property Predictions Using Machine Learning-Based Models

Granted Patent: U.S. Patent 11,449,747
Grant Date: September 20, 2022
 Abhishek Kashinath

Method and System for Determining Cybersecurity Maturity

Granted Patent: U.S. Patent 11,451,575
Grant Date: September 20, 2022
 Mazen A. Baragaba, Muhammad S. Aljuaid and Marek Zidek

Industrial Air Cleaner

Granted Patent: U.S. Patent 11,452,966
Grant Date: September 27, 2022
 Tariq D. Alanazi, Majed T. Almudarres, Omran H. Falath and Ali S. Alzahrani

Thermal Stage and Reduction Absorption Sulfur Recovery Process

Granted Patent: U.S. Patent 11,453,588
Grant Date: September 27, 2022
 John P. O'Connell

Methods and Systems for Producing Paraxylene from C8 Containing Compositions

Granted Patent: U.S. Patent 11,453,624
Grant Date: September 27, 2022
 Zhonglin Zhang, Sohel K. Shaikh, Veera Venkata R. Tammana, Raed H. Abudawoud, Bruce R. Beadle, Hisham T. Bassam and Rakan S. Bilau

Accelerated Cement Compositions and Methods for Treating Lost Circulation Zones

Granted Patent: U.S. Patent 11,453,816
Grant Date: September 27, 2022
 Sara A. Alkhalaf, Abdullah S. Al-Yami and Vikrant B. Wagle

Pressure-Dampening Casing to Reduce Stress Load on Cement Sheath

Granted Patent: U.S. Patent 11,454,068
Grant Date: September 27, 2022
 Abdullah H. Al-Oqaifi, Ahmad M. Al-Abduljabbar and Ali J. Shaikh

Rotational Power Slips

Granted Patent: U.S. Patent 11,454,070
Grant Date: September 27, 2022
 Amjad Alshaarawi, Haytham Hamed, Meshari Alshalan, Abdulwahab Aljohar, Mohammed Badran and Chinthaka P. Gooneratne

Deploying Material to Limit Losses of Drilling Fluid in a Wellbore

Granted Patent: U.S. Patent 11,454,071
Grant Date: September 27, 2022
 Bodong Li, Chinthaka P. Gooneratne, Rami F. Saleh and Timothy E. Moellendick

Systems and Methods for Coreflooding

Granted Patent: U.S. Patent 11,454,077
Grant Date: September 27, 2022
 Abdulaziz S. Al-Qasim and Taha Okasha

Diverter System for Well Control

Granted Patent: U.S. Patent 11,454,080
Grant Date: September 27, 2022
 Naif M. Al-Harbi

Engineered Composite Assembly with Controllable Dissolution

Granted Patent: U.S. Patent 11,454,082
Grant Date: September 27, 2022
 Sakethraman Mahalingam, Graham R. Hitchcock, Daniele Colombo and Jianhui Xu

Artificial Rain to Enhance Hydrocarbon Recovery

Granted Patent: U.S. Patent 11,454,097
Grant Date: September 27, 2022
 Mohammed B. Al-Otaibi, Dong K. Cha and Ali A. Al-Yousef

Methods for Wellbore Formation Using Thermochemicals

Granted Patent: U.S. Patent 11,454,098
Grant Date: September 27, 2022
 Ayman R. Al-Nakhli, Mohammed A. Bataweel, Mohamed M. Nasr Eldin, Abdulazeez Abdullaheem and Zeeshan Tariq

Reservoir Simulation Modeling with Well Trajectory at True Positions in Grid Simulation Models

Granted Patent: U.S. Patent 11,454,105
Grant Date: September 27, 2022
 Xiang Y. Ding and Larry S-K. Fung

Wellhead Growth Monitoring System

Granted Patent: U.S. Patent 11,454,108
Grant Date: September 27, 2022
 Mishaal Al-Elaiwy and Mutlaq Al-Otaibi

System and Method of Typing Heterogeneous Reservoir Rocks

Granted Patent: U.S. Patent 11,454,112
Grant Date: September 27, 2022
 Ming Zhang, Hongwen Zhao, David Amendt and Peng Lu

Method of Placing Gas Sensors on Drones to Benefit from Thrust Air Flow via Placement and Scoops

Granted Patent: U.S. Patent 11,454,572
Grant Date: September 27, 2022
 Fadl H. Abdel Latif and Brian J. Parrott

Systems and Methods for Evaluating a Structural Health of Composite Components by Correlating Positions of Displaced Nanoparticles

Granted Patent: U.S. Patent 11,454,595
Grant Date: September 27, 2022
 Hassan Almousa and Mohamed Bouhrara

Electronic Document Workflow

Granted Patent: U.S. Patent 11,455,295
Grant Date: September 27, 2022
 Majid Al-Roqaie

System and Method for Modeling and Forecasting Electricity Demand

Granted Patent: U.S. Patent 11,455,695
Grant Date: September 27, 2022
 Sabbir A. Rahman and Yasmin A. Aljedawi

Emulsion System Utilizing Nitrogen and Heat to Treat Deep-Water Blockage

Granted Patent: U.S. Patent 11,458,419
Grant Date: October 4, 2022
 Tariq A. Almubarak, Mohammed Khaldi and Ali Al-Taq

Catalyst Systems

Granted Patent: U.S. Patent 11,458,462
Grant Date: October 4, 2022
 Motaz Khawaji, Sohel Shaikh and Wei Xu

Catalyst Systems

Granted Patent: U.S. Patent 11,458,465
Grant Date: October 4, 2022
 Motaz Khawaji, Sohel Shaikh and Wei Xu

Relative Permittivity-Based Online Monitoring System for Screw Conveyors

Granted Patent: U.S. Patent 11,459,182
Grant Date: October 4, 2022
 Abdulrahim Y. Al-Amri

Process for Upgrading Hydrocarbon Feedstock Utilizing Low-Pressure Hydroprocessing and Catalyst Rejuvenation/Regeneration Steps

Granted Patent: U.S. Patent 11,459,515
Grant Date: October 4, 2022
 Omer R. Koseoglu

Two Stage Hydrodearylation Systems to Convert Heavy Aromatics into Gasoline Blending Components and Chemical Grade Aromatics

Granted Patent: U.S. Patent 11,459,516
Grant Date: October 4, 2022
 Robert P. Hodgkins, Omer R. Koseoglu and Frederick M. Adam

System for Steam Cracking and PFO Treatment Integrating Selective Hydrogenation and Selective Hydrocracking

Granted Patent: U.S. Patent 11,459,517
Grant Date: October 4, 2022
 Qi Xu and Raed Abudawoud

Methods and Compositions for Treating Thief Zones in Carbonate Formations Using Crosslinked Polymeric Systems with Graphene Oxide Janus Nanosheets Crosslinker

Granted Patent: U.S. Patent 11,459,258
Grant Date: October 4, 2022
 Jin Huang, Wengang Li and Feng Liang

Methods for Making Proppant Coatings

Granted Patent: U.S. Patent 11,459,505
Grant Date: October 4, 2022
 Wengang Li, Edreese Alsharaeh and Mohan R. Krishnan

Crude Stabilizer Bypass

Granted Patent: U.S. Patent 11,459,511
Grant Date: October 4, 2022
 Ashiff Khan, Mustafa A. Jubran, Ali T. Hajji, Abdulmohsen K. Wosaifer and Abdulrahman Shammari

Steam Cracking Process Integrating Oxidized Disulfide Oil Additive

Granted Patent: U.S. Patent 11,459,515
Grant Date: October 4, 2022
 Omer R. Koseoglu and Robert P. Hodgkins

Lost Circulation Fabric, Method, and Deployment Systems

Granted Patent: U.S. Patent 11,459,858
Grant Date: October 4, 2022
 Bodong Li, Jothibasu Ramasamy, Chinthaka Pasan and Guodong (David) Zhan

Relieving High Annulus Pressure Using Automatic Pressure Relief System

Granted Patent: U.S. Patent 11,459,851
Grant Date: October 4, 2022
 Fahmi Aulia

Actuating a Frangible Flapper Reservoir Isolation Valve

Granted Patent: U.S. Patent 11,459,852
Grant Date: October 4, 2022
 Syed Muhammad

Managing Water Injected into a Disposal Well

Granted Patent: U.S. Patent 11,459,857
Grant Date: October 4, 2022
 Ammal Al-Anazi

High Power Laser in Situ Heating and Steam Generation Tool and Methods

Granted Patent: U.S. Patent 11,459,864
Grant Date: October 4, 2022
 Sameeh I. Batarseh

Geomodel-Driven Dynamic Well Path Optimization

Granted Patent: U.S. Patent 11,459,875
Grant Date: October 4, 2022
 Jay Vogt, Shuo Zhang, Chicheng Xu and Troy W. Thompson

Systems and Methods for the Determination of Lithology Porosity from Surface Drilling Parameters

Granted Patent: U.S. Patent 11,459,882
Grant Date: October 4, 2022
 Hamad Kharaa, Raed A. Alouhali, Arturo Magana-Mora, Mohammed Al-Duhailan and Mohammed K. Al-Arfaj

Measuring Horizontal Stress in an Underground Formation

Granted Patent: U.S. Patent 11,459,884
Grant Date: October 4, 2022
 Khalid M. Al-Ruwaili and Khaqan Khan

Sealant Injection Nut

Granted Patent: U.S. Patent 11,460,151
Grant Date: October 4, 2022
 Hassan A. Alsalloum, Bader M. Jarallah and Saad M. Shiha

Sensor Network for Subsurface Impact Protection System

Granted Patent: U.S. Patent 11,460,142
Grant Date: October 4, 2022
 Vincent B. Cunningham and Iqbal Hussain

Reducing Noise in a Vortex Flow Meter

Granted Patent: U.S. Patent 11,460,550
Grant Date: October 4, 2022
 Jana M. Al-Jindan and Mohamed N. Noui-Mehidi

Methods for Detecting and Quantifying Glutaraldehyde-Based Products in Water

Granted Patent: U.S. Patent 11,460,402
Grant Date: October 4, 2022
 Xiangyang Zhu, Mohammed A. Moniee and Mazen A. Al-Saleh

System for Nondestructively Inspecting Fiberglass and Nonmetallic Pipes

Granted Patent: U.S. Patent 11,460,412
Grant Date: October 4, 2022
 Ahmed S. Al-Omari

Method for Measuring Oil in Water Using Multifrequency Microwave Measurements

Granted Patent: U.S. Patent 11,460,416
Grant Date: October 4, 2022
 Jose Oliverio Alvarez and David J. Jacobi

Fluid Analysis Systems and Methods in Oil and Gas Applications

Granted Patent: U.S. Patent 11,460,445
Grant Date: October 4, 2022
 Mustafa Huwaidar and Shouxiang M. Ma

Unified Continuous Seismic Reservoir Monitoring

Granted Patent: U.S. Patent 11,460,595
Grant Date: October 4, 2022
 Mustafa Al-Ali and Hongwei Liu

Systems and Methods for Saturation Logging of Hydrocarbon Wells

Granted Patent: U.S. Patent 11,460,602
Grant Date: October 4, 2022
 Yahia A. Eltaher and Shouxiang M. Ma

Reservoir Simulation with Pressure Solver for Non-Diagonally Dominant Indefinite Coefficient Matrices

Granted Patent: U.S. Patent 11,461,514
Grant Date: October 4, 2022
 Ali H. Dogru

Vehicular Integration of Enterprise Wireless Scanning

Granted Patent: U.S. Patent 11,463,881
Grant Date: October 4, 2022
 John G. Williams

Manufacturing Continuous Fiber Reinforced Thermoplastic Components with Layers of Unidirectional Tape

Granted Patent: U.S. Patent 11,465,545
Grant Date: October 11, 2022
 Abderrahim Fakiri and Abdullatif Jazzar

Aromatization of Light Hydrocarbons Using Metal-Doped Zeolite Catalysts with Enhanced Mesoporosity

Granted Patent: U.S. Patent 11,465,950
Grant Date: October 11, 2022
 Ziyauddin Qureshi, Yaming Jin, Abdullah M. Aitani, Omer R. Koseoglu, Mohammad Naseem Akhtar and Hassan Al-Asiri

Cements for Oil and Gas Cementing Applications

Granted Patent: U.S. Patent 11,466,192
Grant Date: October 11, 2022
 Khawlah A. Alanqari, Abdullah S. Al-Yami, Vikrant B. Wagle and Ali Al-Safran

Methods of Dissolving Gas Hydrates

Granted Patent: U.S. Patent 11,466,195
Grant Date: October 11, 2022
 Mohammed A. Sayed and Rajesh K. Saini

Iron Sulfide Inhibitor Suitable for Squeeze Application

Granted Patent: U.S. Patent 11,466,196
Grant Date: October 11, 2022
 Lena Petrozziello, Christoph Kayser, Cyril Okocha, Tao Chen, Qiwei Wang and Norah Aljeaban

Systems and Processes for Hydrocarbon Upgrading

Granted Patent: U.S. Patent 11,466,221
Grant Date: October 11, 2022
 Mazin M. Fathi and Ki-Hyouk Choi

Polymeric Sleeve for Guiding an Untethered Measurement Device in a Christmas Tree Valve

Granted Patent: U.S. Patent 11,466,526
Grant Date: October 11, 2022
 Simone Musso

Downhole Linear Pump System*Granted Patent: U.S. Patent 11,466,548**Grant Date: October 11, 2022*

Jinjiang Xiao

Anti-Gas Locking Pumps and Related Methods in Oil and Gas Applications*Granted Patent: U.S. Patent 11,466,681**Grant Date: October 11, 2022*

Amr M. Zahran, Syed M. Taha, Mohamed A. Sayed and Bagus Setiadi

Determining Structural Tomographic Properties of a Geologic Formation*Granted Patent: U.S. Patent 11,467,026**Grant Date: October 11, 2022*

Howard K. Schmidt, Jesus M. Felix-Servin, Frode Hveding and Daniele Colombo

Systems and Methods for Real-Time Offshore Flare Monitoring in Drilling Ships*Granted Patent: U.S. Patent 11,467,039**Grant Date: October 11, 2022*

Khaled Asfahani, Ali Qasem and Adel Al-Ghamdi

Sensing Leak in a Multi-Seal Sealing Assembly with Sensors*Granted Patent: U.S. Patent 11,467,056**Grant Date: October 11, 2022*

Martin Meehan

Estimating Permeability of Reservoir Rocks Using Mercury Injection Capillary Pressure*Granted Patent: U.S. Patent 11,467,080**Grant Date: October 11, 2022*

Hongwen Zhao, Yufeng Cui, Ming Zhang and Peng Lu

System and Method for Analyzing Cathodic Protection Current Shielding of a Coating*Granted Patent: U.S. Patent 11,467,083**Grant Date: October 11, 2022*

Turki A. Al-Khaldi, Anas S. Rushaid, Abduljalil Al-Rasheed, Naim M. Dakwar, Ebadul Z. Al-Haque, Balasubramani Bakthavatchalu and Mohammed A. Alrudayni

Full Waveform Inversion Velocity Guided First Arrival Picking*Granted Patent: U.S. Patent 11,467,299**Grant Date: October 11, 2022*

Young S. Kim, Adam J. Fox, Krzysztof K. Sliz, Jewoo Yoo and Tong W. Fei

Seismic First Breaks Onset Times Determination by Interface Tracking Using Level-Sets Method*Granted Patent: U.S. Patent 11,467,502**Grant Date: October 11, 2022*

Mamadou S. Diallo, Mustafa Almarzooq, Javier Giraldo-Buitrago and Abdullah E. Qahtani

Identifying Geologic Features in a Subterranean Formation Using a Post-Stack Seismic Diffraction Imaging Condition*Granted Patent: U.S. Patent 11,467,505**Grant Date: October 11, 2022*

Dongliang Zhang and Constantinos Tsingias

Energy Reducing Maintenance Switch System and Method for Implementing an Energy Reducing Maintenance Switch System*Granted Patent: U.S. Patent 11,469,591**Grant Date: October 11, 2022*

Recardo Guerra Castillo

Fabrication of Composite Parts by Additive Manufacturing and Microstructure Topology Customization*Granted Patent: U.S. Patent 11,472,122**Grant Date: October 18, 2022*

Thibault Villette

Perching UAV with Releasable Crawler*Granted Patent: U.S. Patent 11,472,498**Grant Date: October 18, 2022*

Fadl H. Abdel Latif and Jeff Shamma

Catalyst and Process for Thermo-Neutral Reforming of Petroleum-Based Liquid Hydrocarbons*Granted Patent: U.S. Patent 11,472,700**Grant Date: October 18, 2022*

Sai P. Katikaneni, Roberto Bittencourt, Shakeel Ahmed, Mauri Cardoso, Vivian De Souza and Aadesh Harale

Bulk Synthesis of Janus Nanomaterials*Granted Patent: U.S. Patent 11,472,709**Grant Date: October 18, 2022*

Wei Wang and Sehoon Chang

Methods of Heavy Reformate Conversion into Aromatic Compounds*Granted Patent: U.S. Patent 11,472,755**Grant Date: October 18, 2022*

M. Cristina Martinez, Ibrahim M. Al-Zahrani, Raed Abudawoud, Vincente J. Margarit Benavent, M. Teresa Villalba, M. Teresa Portilla and Avelino Corma Canos

Environmentally Friendly Lubricant for Oil Field Drilling Fluid Applications*Granted Patent: U.S. Patent 11,472,995**Grant Date: October 18, 2022*

Jothibasu Ramasamy and Md Amanullah

Cement Compositions Including Epoxy Resin Systems for Preventing Fluid Migration*Granted Patent: U.S. Patent 11,472,998**Grant Date: October 18, 2022*

Mohammad Aljubran, Abdullah S. Al-Yami, Vikrant B. Wagle, Hussain Albahrani, Ali Alsafran, Nasser Alhareth, Hasan Alaswad and Qadir D. Looni

Delivery of Halogens to a Subterranean Formation*Granted Patent: U.S. Patent 11,475,001**Grant Date: October 18, 2022*

Desmond Schipper, Katherine L. Hull and Younane N. Abousleiman

Delivery of Halogens to a Subterranean Formation*Granted Patent: U.S. Patent 11,475,009**Grant Date: October 18, 2022*

Desmond Schipper, Katherine L. Hull and Younane N. Abousleiman

Nanoparticle Coated Proppants and Methods of Making and Use Thereof*Granted Patent: U.S. Patent 11,475,010**Grant Date: October 18, 2022*

Mohammad H. Haque, Rajesh K. Saini and Mohammed A. Sayed

Fluid Catalytic Cracking of Petroleum Oil with Reduced Emissions*Granted Patent: U.S. Patent 11,475,020**Grant Date: October 18, 2022*

Othman Taha and Saeed S. Alloush

Distillate Hydrocracking Process with an N-Paraffins Separation Step to Produce a High Octane Number Isomeric Stream and a Steam Pyrolysis Feedstock*Granted Patent: U.S. Patent 11,475,022**Grant Date: October 18, 2022*

Omer R. Koseoglu and Ashok K. Punetha

Pipeline Pressure Testing Accounting for Measurement Uncertainties*Granted Patent: U.S. Patent 11,475,275**Grant Date: October 18, 2022*

Husain M. Muslim, Mansour M. Saleh and Hani A. Al-Subaikh

Tubing Head Adapters with Multiple Back Pressure Valves and Methods of Isolating Production Tubing*Granted Patent: U.S. Patent 11,475,588**Grant Date: October 18, 2022*

Abdullah Al-Kunin

Pipe Coupling Devices for Oil and Gas Applications*Granted Patent: U.S. Patent 11,475,594**Grant Date: October 18, 2022*

Victor Costa De Oliveira and Khaled Abouelnaaj

Lost Circulation Shapes*Granted Patent: U.S. Patent 11,475,596**Grant Date: October 18, 2022*

Graham R. Hitchcock

Cementing Across Loss Circulation Zones Utilizing a Smart Drillable Cement Stinger*Granted Patent: U.S. Patent 11,475,597**Grant Date: October 18, 2022*

Peter I. Egbe and Victor Bustamante

Continuous Circulation and Rotation for Liner Deployment to Prevent Stuck*Granted Patent: U.S. Patent 11,475,409**Grant Date: October 18, 2022*

Ahmed A. Al-Mousa and Qadir D. Looni

Hybrid Perforation Tool and Methods*Granted Patent: U.S. Patent 11,475,410**Grant Date: October 18, 2022*

Sameeh I. Batarseh

Surface Logging Wells Using Depth Tagging of Cuttings*Granted Patent: U.S. Patent 11,475,425**Grant Date: October 18, 2022*

Hooisweng Ow, Jason R. Cox, Martin E. Poitzsch, Daniel Georgi and Alberto F. Marsala

Internal Combustion Engines Having Super Knock Mitigation Controls and Methods for their Operation

*Granted Patent: U.S. Patent 11,473,550
Grant Date: October 18, 2022*

Eshan Singh, Kai J. Morganti, Robert W. Dibble, Gautam T. Kalghatgi, Vedharah Sivasankaralingam, Vallinayagam Raman, Mohammed J. Ali and Hong G. Im

Flexible Ignition Device for Gasoline Compression Ignition Combustion in Internal Combustion Engines

*Granted Patent: U.S. Patent 11,473,551
Grant Date: October 18, 2022*

Nayan Engineer

Well Completion Converting a Hydrocarbon Production Well into a Geothermal Well

*Granted Patent: U.S. Patent 11,473,813
Grant Date: October 18, 2022*

Attalah Alharbi and Mashari Al-Otaibi

Ultrasonic Dry Coupled Wheel Probe with a Radial Transducer

*Granted Patent: U.S. Patent 11,474,079
Grant Date: October 18, 2022*

Fadl H. Abdel Latif and Sahejad Patel

Three-Component Seismic Data Acquisition while Fracking

*Granted Patent: U.S. Patent 11,474,270
Grant Date: October 18, 2022*

Yujin Liu, Yue Du, Tong W. Fei and Yi Luo

System and Method for Protecting a Communication Device Against Identification Outside a Computer Network by Routing Traffic through a Smart Hub

*Granted Patent: U.S. Patent 11,477,221
Grant Date: October 18, 2022*

Salman Al-Anazi

Online System Identification for Data Reliability Enhancement

*Granted Patent: U.S. Patent 11,477,226
Grant Date: October 18, 2022*

Nawwaf S. Alabdulhadi, Tariq A. Albassam, David W. Kierznowski, Mohammed U. Vayani, Shahaleel A. Alyousef, Mansour E. Alzayani, Ahmed A. Alshamrani and Khadijah M. Albassam

Method and System for Blockchain Accreditation Mechanism Based on Cybersecurity Risk

*Granted Patent: U.S. Patent 11,477,228
Grant Date: October 18, 2022*

Sultan Sharif and Wael Alagi

System and Method for Vulnerability Remediation Prioritization

*Granted Patent: U.S. Patent 11,477,231
Grant Date: October 18, 2022*

Mariam Bubshait and Mashael Al-Khalis

Method and System for Data Loss Prevention Management

*Granted Patent: U.S. Patent 11,477,244
Grant Date: October 18, 2022*

Rafiq A. Khurshid, Saad F. Al-Anazi and Abdullah T. Al-Essa

Catalyst Compositions Having Enhanced Acidity for Dry Reforming Processes

*Granted Patent: U.S. Patent 11,478,777
Grant Date: October 25, 2022*

Rami Bamagain, Bandar A. Fadhel and Bandar Solami

Catalyst Compositions for Ammonia Decomposition

*Granted Patent: U.S. Patent 11,478,784
Grant Date: October 25, 2022*

Aadesh Harale, Sai P. Katikaneni, Jorge Gascon, Salvador Sayas and Bandar Solami

Crosslinked Polyrotaxanes and their Application in Cement

*Granted Patent: U.S. Patent 11,479,708
Grant Date: October 25, 2022*

Hasmukh A. Patel, Carl J. Thaemlitz and Peter J. Boul

Additives for Supercritical Water Process to Upgrade Heavy Oil

*Granted Patent: U.S. Patent 11,479,729
Grant Date: October 25, 2022*

Ki-Hyouk Choi, Emad Al-Shafi, Mohammed Z. Al-Bahar and Abdulaziz A. Ghabbani

Self-Powered Active Vibration and Rotational Speed Sensors

*Granted Patent: U.S. Patent 11,480,018
Grant Date: October 25, 2022*

Chinthaka P. Gooneratne, Subhas Mukhopadhyay, Bodong Li, Guodong (David) Zhan, Arturo Magana-Mora and Timothy E. Moellendick

Seismic-while-Drilling Systems and Methodology for Collecting Subsurface Formation Data

*Granted Patent: U.S. Patent 11,480,048
Grant Date: October 25, 2022*

Bandar S. Al-Malki, Mohammed T. Al-Mojbel, Mohammed Y. Al-Daif and Ismail A. Adebiji

Pumping System with Control Features for Controlling Stroke Duration and Injection Volume

*Granted Patent: U.S. Patent 11,480,163
Grant Date: October 25, 2022*

Amer A. Al-Dhafiri

Heat Exchanger Fouling Determination Using Thermography Combined with Machine Learning Methods

*Granted Patent: U.S. Patent 11,480,517
Grant Date: October 25, 2022*

Ali Alshehri, Victor Cunningham, Ayman Amer, Wei Xu and Faisal M. Melebari

Systems and Methods for Evaluating Petroleum Data for Automated Processes

*Granted Patent: U.S. Patent 11,481,413
Grant Date: October 25, 2022*

Ali Al-Shahri, Waqas Khan, Numan Aqeel and Suaaleh Hasan

Utilizing Web Application Firewall and Machine Learning to Detect Command and Control

*Granted Patent: U.S. Patent 11,483,342
Grant Date: October 25, 2022*

Sultan Al-Sharif, Mohammed Al-Fraih, Ziad Al-Omari and Kalid Al-Hazmi

Modified Large Crystallite USY Zeolite for Hydrocracking Hydrocarbon Oil

*Granted Patent: U.S. Patent 11,484,868
Grant Date: November 1, 2022*

Omer R. Koseoglu, Robert P. Hodgkins, Mitsunori Watabe and Koji Uchida

Modified Ultra-Stable Y (USY) Zeolite Catalyst for Dealkylation of Aromatics

*Granted Patent: U.S. Patent 11,484,869
Grant Date: November 1, 2022*

Omer R. Koseoglu, Robert P. Hodgkins, Tomoyasu Kagawa, Mitsunori Watabe and Koji Uchida

Catalyst Systems

*Granted Patent: U.S. Patent 11,484,871
Grant Date: November 1, 2022*

Jaseer Ea, Barman Samir, Villalta N. Garcia, Khawaja Motaz, Xu Wei and Fahd A. Almalki

Accelerated Cement Compositions and Methods for Top Job Cementing of a Wellbore to Reduce Corrosion

*Granted Patent: U.S. Patent 11,485,894
Grant Date: November 1, 2022*

Sara A. Alkhalaf, Abdullah S. Al-Yami, Vikrant B. Wagle and Mohammed Al-Harhi

Environmentally Friendly Epoxidized Vegetable Oil-Based Fatty Acid Esters to Prevent Loss Circulation

*Granted Patent: U.S. Patent 11,485,898
Grant Date: November 1, 2022*

Vikrant B. Wagle, Jothibasu Ramasamy and Abdullah S. Al-Yami

Mitigation of Condensate and Water Banking Using Functionalized Nanoparticles

*Granted Patent: U.S. Patent 11,485,900
Grant Date: November 1, 2022*

Rajesh K. Saini, Mohammed A. Sayed, Hooisweng Ow, Mohammad H. Haque and Amy Cairns

Systems and Methods Including Hydroprocessing and High Severity Fluidized Catalytic Cracking for Processing Petroleum-Based Materials

*Granted Patent: U.S. Patent 11,485,917
Grant Date: November 1, 2022*

Mansour A. Al-Herz and Musaed Al Ghrami

Real-Time Polycrystalline Diamond Compact (PDC) Bit Condition Evaluation Using Acoustic Emission Technology during Downhole Drilling

*Granted Patent: U.S. Patent 11,486,202
Grant Date: November 1, 2022*

Jianhui Xu, Guodong (David) Zhan, Bodong Li, Chinthaka P. Gooneratne, Arturo Magana Mora and Timothy E. Moellendick

Method and Apparatus for Gaining Reentry Below Abandoned Wellbore Equipment

*Granted Patent: U.S. Patent 11,486,215
Grant Date: November 1, 2022*

Ahmed A. Al-Ramadhan and Ahmed Al-Mousa

Split Riser Lubricator to Reduce Lifting Heights during Tool Installation and Retrieval

Granted Patent: U.S. Patent 11,486,218
Grant Date: November 1, 2022
 Chidirim E. Ejim

Allocating Resources for Implementing a Well Planning Process

Granted Patent: U.S. Patent 11,486,250
Grant Date: November 1, 2022
 Aus A. Tawil, Matter J. Alshammery, Nazih F. Najjar and Mohammad O. Alamoudi

Multilateral Well Access Systems and Related Methods of Performing Wellbore Interventions

Granted Patent: U.S. Patent 11,486,251
Grant Date: November 1, 2022
 Feras Rowaihy, Carl Lindahl, Suresh Jacob and Ahmed Al-Sulaiman

Downhole Water Removal Tool

Granted Patent: U.S. Patent 11,486,259
Grant Date: November 1, 2022
 Alwaleed A. Al-Gouhi

Methods of Acoustically or Electromagnetically Activated Well Treatment

Granted Patent: U.S. Patent 11,486,242
Grant Date: November 1, 2022
 Maxim Orlov, Timur Zharnikov, Vera Solovyeva and Tao Chen

Systems and Methods for Determining Mud Weight Window during Wellbore Drilling

Granted Patent: U.S. Patent 11,486,244
Grant Date: November 1, 2022
 Chao Liu, Yanhui Han, Dung Phan and Younane N. Abousleiman

Drift and Measurement Tools and Methods

Granted Patent: U.S. Patent 11,486,835
Grant Date: November 1, 2022
 Bader Al-Sayegh, Amer Al-Harhi and Naif Al-Nefaie

Characterizing Low Permeability Reservoirs by Using Numerical Models of Short-Time Well Test Data

Granted Patent: U.S. Patent 11,487,052
Grant Date: November 1, 2022
 Rana S. Amin, Bandar A. Wehaibi and Noor M. Anisur Rahman

Robotic Solar Panel Cleaning System

Granted Patent: U.S. Patent 11,489,487
Grant Date: November 1, 2022
 Abdullah M. Al-Otaibi

Method and System for Detecting and Remediating Malicious Code in a Computer Network

Granted Patent: U.S. Patent 11,489,849
Grant Date: November 1, 2022
 Urfan Ahmed

Hazard Detection and Containment

Granted Patent: U.S. Patent 11,491,557
Grant Date: November 8, 2022
 Sarhan A. Al-Bahish, Sulaiman Al-Walaie and Osama Bahwal

Floating Assembly of Inclined Channels with an Applied Electrical Field for the Accelerated Electrostatic Separation of Water-in-Oil Dispersions

Granted Patent: U.S. Patent 11,491,418
Grant Date: November 8, 2022
 Simone Less, Sebastien A. Duval and Olanrewaju M. Oshinowo

Method for Reducing Energy and Water Demands of Scrubbing CO₂ from CO₂ Lean Waste Gases

Granted Patent: U.S. Patent 11,491,459
Grant Date: November 8, 2022
 Serguey V. Arkadaskiy, Noushad Kunnummal and Zeyad Ahmed

Hydrogen Production with Membrane Reformer

Granted Patent: U.S. Patent 11,492,254
Grant Date: November 8, 2022
 Aadesh Harale, Aqil Jamal, Sai P. Katikaneni, Stephen Paglieri, Henk Van Veen and Francesco Sebastiani

Steam Methane Reforming with Steam Regeneration

Granted Patent: U.S. Patent 11,492,255
Grant Date: November 8, 2022
 Mourad Younes, Aadesh Harale and Aqil Jamal

Incinerator System for On-Site Completion Fluid Removal and Methods of Using the Same

Granted Patent: U.S. Patent 11,492,269
Grant Date: November 8, 2022
 Mahmoud A. Al-Qurashi and Ossama R. Sehsah

Unfoldable Device for Controlling Loss Circulation

Granted Patent: U.S. Patent 11,492,550
Grant Date: November 8, 2022
 Simone Musso and Ashok Santra

Cement Slurries and Methods for Cementing a Casing in a Wellbore

Granted Patent: U.S. Patent 11,492,556
Grant Date: November 8, 2022
 Sara A. Alkhalaf, Abdullah S. Al-Yami, Vikrant B. Wagle, Abdulaziz Alhelal and Ali Alsafran

Nano-Sized Dendrimeric Epoxy Resin as a Loss Circulation Material

Granted Patent: U.S. Patent 11,492,557
Grant Date: November 8, 2022
 Vikrant B. Wagle, Jothibasu Ramasamy and Abdullah S. Al-Yami

Organic Salts of Oxidizing Anions as Energetic Materials

Granted Patent: U.S. Patent 11,492,541
Grant Date: November 8, 2022
 Desmond Schipper and Katherine L. Hull

Demulsifier Control Algorithm for Dual Frequency Desalting Electrostatic Coalescers

Granted Patent: U.S. Patent 11,492,557
Grant Date: November 8, 2022
 Ramsey J. White, Miguel A. Lopez, Freddy Rubiano and Sultan I. Al-Ghamdi

Cutting Pipes in Wellbores Using Downhole Autonomous Cutting Tools

Granted Patent: U.S. Patent 11,492,862
Grant Date: November 8, 2022
 Ossama R. Sehsah, Amjad Al-Shaarawi and Chinthaka P. Gooneratne

Oil Production Optimization by Admixing Two Reservoirs Using a Restrained Device

Granted Patent: U.S. Patent 11,492,881
Grant Date: November 8, 2022
 Hisham Al-Shuwaikhat

Oil Reservoir Conformance Improvement System and Method

Granted Patent: U.S. Patent 11,492,882
Grant Date: November 8, 2022
 Ahmad Al-Abdulghani, Victor A. Torrealba and Hussein Hoteit

Relative Permeability Ratio from Wellbore Drilling Data

Granted Patent: U.S. Patent 11,492,895
Grant Date: November 8, 2022
 Babatope O. Kayode and Bander Ghamdi

Drilling System Having Wireless Sensors

Granted Patent: U.S. Patent 11,492,898
Grant Date: November 8, 2022
 Ossama R. Sehsah and Peter I. Egbe

Construction of a High-Resolution Advanced 3D Transient Model with Multiple Wells by Integrating Pressure Transient Data into Static Geological Model

Granted Patent: U.S. Patent 11,493,654
Grant Date: November 8, 2022
 Bandar A. Wehaibi, Mohammed B. Issaka and Noor M. Anisur Rahman

Intelligent Distributed Industrial Facility Safety System Dynamic Zone of Interest Alerts

Granted Patent: U.S. Patent 11,495,897
Grant Date: November 8, 2022
 Mohammed Al-Juaid and Mohammed Makhdoum

Solar Panel Efficiency and Security Monitoring Device

Granted Patent: U.S. Patent 11,495,105
Grant Date: November 8, 2022
 Ayed A. Al-Ruwaili, Abdulaziz H. Al-Saiyari, Khalid H. Al-Qahtani and Abdulaziz A. Al-Onazi

Utilizing Black Powder for Electrolytes for Flow Batteries

Granted Patent: U.S. Patent 11,495,814
Grant Date: November 8, 2022
 Ahmad D. Hammad, Bandar A. Fadhel and Issam A. Amr

Nickel Containing Catalyst Composition Having Enhanced Acidity for Dry Reforming Processes

Granted Patent: U.S. Patent 11,498,053
Grant Date: November 15, 2022
 Rami Bamagain, Bandar A. Fadhel, Mohammed A. Albuai and Bandar Solami

Catalysts that Include Iron, Cobalt, and Copper, and Methods for Making the Same

Granted Patent: U.S. Patent 11,498,059
Grant Date: November 15, 2022
 Nouf Al Jabri and Kuo-Wei Huang

Functionalized Graphene and Epoxy Composite

Granted Patent: U.S. Patent 11,499,053

Grant Date: November 15, 2022

Haleema A. Alamri, Ihsan Altaie, Shitong Zhu, Aziz Fihri and Timothy M. Swager

Epoxidized Fatty Acid Methyl Ester as Low Shear Rheology Modifier for Invert Emulsion Oil-Based Mud

Granted Patent: U.S. Patent 11,499,082

Grant Date: November 15, 2022

Jothibasu Ramasamy and Vikrant B. Wagle

Oxidizers for Carbon Dioxide-Based Fracturing Fluids

Granted Patent: U.S. Patent 11,499,090

Grant Date: November 15, 2022

Desmond Schipper, Katherine L. Hull, Rajesh K. Saini and Younane N. Abousleiman

Coated Nanosand as Relative Permeability Modifier

Granted Patent: U.S. Patent 11,499,092

Grant Date: November 15, 2022

Ayman Al-Mohsin, Edreese Al-Sharaeh, Mohan R. Krishnan and Mohieddin Alghazali

Dynamic Calibration of Reservoir Simulation Models Using Flux Conditioning

Granted Patent: U.S. Patent 11,499,597

Grant Date: November 15, 2022

Mohammad M. Al-Shammary, Marko Maucec and Babatunde O. Moriwawon

Automated Production Optimization Technique for Smart Well Completions Using Real-Time Nodal Analysis

Granted Patent: U.S. Patent 11,499,425

Grant Date: November 15, 2022

Amer Alanazi, Abdulaziz S. Al-Qasim and Ahmed Y. Bukhamseen

Systems and Methods to Determine the Productivity Index of Individual Laterals under Commingled Flow

Granted Patent: U.S. Patent 11,499,424

Grant Date: November 15, 2022

Wisam Shaker, Majed Al-Shammari, Abdulhamid Al-Sousy and Bandar Al-Mutairi

Self-Balancing Thrust Disk

Granted Patent: U.S. Patent 11,499,563

Grant Date: November 15, 2022

Hassan M. Badr, Jinjiang Xiao and Chidirim E. Ejim

Measurement of Chloride Content in Catalysts

Granted Patent: U.S. Patent 11,499,950

Grant Date: November 15, 2022

Esam M. Hawsah

Clay Detection and Quantification Using Low Frequency Electromagnetic Measurements

Granted Patent: U.S. Patent 11,499,955

Grant Date: November 15, 2022

Shouxiang M. Ma, Chengbing Liu, Wael Abdallah and Ping Zhang

Identifying Characteristics of a Subterranean Region Using Vector-Based Wavefield Separation of Seismic Data from the Subterranean Region

Granted Patent: U.S. Patent 11,501,116

Grant Date: November 15, 2022

Wooden Jeong, Constantinos Tsingas and Young-Seo Kim

Dynamic Calibration of Reservoir Simulation Models Using Pattern Recognition

Granted Patent: U.S. Patent 11,501,038

Grant Date: November 15, 2022

Mohammad M. Al-Shammary, Marko Maucec and Babatunde O. Moriwawon

Continuous Process for Producing Halogenated Isoolefin Copolymer

Granted Patent: U.S. Patent 11,505,627

Grant Date: November 22, 2022

Adrian H. Murray

Halogen Recovery in a Wet Process for Halogenating Unsaturated Isoolefin Copolymer

Granted Patent: U.S. Patent 11,505,628

Grant Date: November 22, 2022

Adrian H. Murray

Shape-Adaptable Lost Circulation Material for Moderate and Severe Loss Control

Granted Patent: U.S. Patent 11,505,732

Grant Date: November 22, 2022

Md Amanullah and Timothy E. Moellendick

Compositions and Methods for Controlling Strong Acid Systems

Granted Patent: U.S. Patent 11,505,757

Grant Date: November 22, 2022

Mohammed A. Sayed, Amy J. Cairns, Bashayer Aldakkan, Ahmed Gomaa and Khalid Al-Noaimi

Processes for Producing Petrochemical Products from Atmospheric Residues

Granted Patent: U.S. Patent 11,505,754

Grant Date: November 22, 2022

Musaed S. Al-Ghrami and Aaron Akah

Method and Apparatus of Smart Jarring System

Granted Patent: U.S. Patent 11,506,011

Grant Date: November 22, 2022

Ahmed A. Al-Mousa and Mohammed A. Al-Khowaildi

Wellhead Spill Prevention Apparatuses and Methods

Granted Patent: U.S. Patent 11,506,025

Grant Date: November 22, 2022

Hamad M. Nafa

Automatic Analysis of Drillstring Dynamics

Granted Patent: U.S. Patent 11,506,044

Grant Date: November 22, 2022

Arturo Magana-Mora, Michael A. Affleck, Chinthaka P. Gooneratne, William C. Otalvora and Krzysztof K. Machocki

Image-Based Inspection and Automated Inventory and Supply Chain Management of Well Equipment

Granted Patent: U.S. Patent 11,506,047

Grant Date: November 22, 2022

Chinthaka P. Gooneratne, Michael A. Affleck and Timothy E. Moellendick

Magnetic Emulsions as Contrast Agents for Subsurface Applications

Granted Patent: U.S. Patent 11,506,049

Grant Date: November 22, 2022

Jesus M. Felix Servin, Nan Shi and Amr Abdel-Fattah

Gasoline Internal Combustion Engine with Assisted Compression Ignition

Granted Patent: U.S. Patent 11,506,168

Grant Date: November 22, 2022

Sebastien Houille, Virginie Morel and Sankesh Durgada

Inverse Stratigraphic Modeling Using a Hybrid Linear and Nonlinear Algorithm

Granted Patent: U.S. Patent 11,506,804

Grant Date: November 22, 2022

Mokhles Mezghani and Ming Zhang

System and Method for Acoustically Imaging Wellbore during Drilling

Granted Patent: U.S. Patent 11,506,809

Grant Date: November 22, 2022

Khalid M. Al-Ruwaili and Murtadha J. ALTammar

Systems and Method for Selecting a Logging Deployment Option

Granted Patent: U.S. Patent 11,506,812

Grant Date: November 22, 2022

Ahmed Al-Khili and Abdulla Jabr

Multiprotocol Label Switching (MPLS) Traffic Engineering Design for IP Multimedia Subsystem-Based Voice Over Internet Protocol

Granted Patent: U.S. Patent 11,509,574

Grant Date: November 22, 2022

Baraka H. Al-Mutairi, Majed Shukri and Kashif Khawaja

Flexible Rotating Blanking Panel for an IT Rack

Granted Patent: U.S. Patent 11,510,555

Grant Date: November 22, 2022

Abdullah Al-Harbi

Double-Layered Flame Resistant Garment

Granted Patent: U.S. Patent 11,510,446

Grant Date: November 29, 2022

Aniela Zarzar Torano, Eric T. Anderson, Fatimah M. Barnawi and Mohammed S. Abahareth

Electrochemical Reduction of Carbon Dioxide

Granted Patent: U.S. Patent 11,512,400

Grant Date: November 29, 2022

Fayez N. Al-Ruwaili, Mazen Khaled, Aqil Jamal and Sagheer A. Onaizi

Hydraulically Driven Hole Cleaning Apparatus

Granted Patent: U.S. Patent 11,512,541

Grant Date: November 29, 2022

Abdulwahab S. Aljohar, Mohammed M. Al-Rubaii and Abdullah S. Al-Yami

Integrated System and Method for Automated Monitoring and Control of Sand-Prone Well

Granted Patent: U.S. Patent 11,512,557
Grant Date: November 29, 2022
Ammal Al-Anazi and James O. Arukhe

Intelligently Characterizing Reservoirs via Fluorescent Imaging Rock Cuttings

Granted Patent: U.S. Patent 11,512,576
Grant Date: November 29, 2022
Klemens Katterbauer, Alberto F. Marsala, Nouf Jabri and Vera Solovyeva

Real-Time Estimation of Reservoir Porosity from Mud Gas Data

Granted Patent: U.S. Patent 11,512,580
Grant Date: November 29, 2022
Fatai A. Anifowose, Mokhles M. Mezghani, Walid K. Hussein and Jean-Francois Mengual

Oxycombustion Engine Systems Including Recirculation Management Features

Granted Patent: U.S. Patent 11,512,656
Grant Date: November 29, 2022
Husain A. Baaqel and Esam Z. Hamad

Autonomous Bidder Solicitation and Selection System

Granted Patent: U.S. Patent 11,514,511
Grant Date: November 29, 2022
Mazin A. Sinan and Zainab A. Aljaroudi

Composite Material for Removal of Hydrophobic Components from Fluid Mixtures

Granted Patent: U.S. Patent 11,517,859
Grant Date: December 6, 2022
Fahd I. Alghunaimi, Nadeem Baig, Tawfik A. Saleh and Hind S. Dossary

Water Separation in Flow Lines or Trunk Lines

Granted Patent: U.S. Patent 11,517,865
Grant Date: December 6, 2022
Alwaleed A. Al-Gouhi, Nabil S. Al-Khanaifer, Abdullah M. Al-Zahrani, Mutaz A. Al-Daas, Riyad S. Al-Anazi, Yaseen A. Bokhamseen, Abdullah S. Al-Saddah and Jana M. Aljindan

Methods of Producing Isomerization Catalysts

Granted Patent: U.S. Patent 11,517,892
Grant Date: December 6, 2022
Afnan Alghannam, Sohel Shaikh, Munir D. Khokhar and Faisal H. Alshafei

Methods of Dissolving Gas Hydrates

Granted Patent: U.S. Patent 11,518,924
Grant Date: December 6, 2022
Mohammed A. Sayed and Rajesh K. Saini

Pyrolysis to Determine Hydrocarbon Expulsion Efficiency of Hydrocarbon Source Rock

Granted Patent: U.S. Patent 11,518,941
Grant Date: December 6, 2022
Sedat Inan

Methods for Breaking Emulsions

Granted Patent: U.S. Patent 11,518,948
Grant Date: December 6, 2022
Mohammad AlRoaiti, Muhammad I. Ulhaq, Shaikh Sohel and Wei Xu

Method of Producing a Fuel Additive

Granted Patent: U.S. Patent 11,518,951
Grant Date: December 6, 2022
Naif M. Al-Otaibi, Kareemuddin M. Shaik, Mohammed B. Ansari and Dhupal S. Sunil

Methods and Apparatus Using Modified Drilling Fluid with Real-Time Tunable Rheology for Downhole Processes

Granted Patent: U.S. Patent 11,519,252
Grant Date: December 6, 2022
Yazeed R. Al-Dughaiter

Downhole Ceramic Disk Rupture by Jetting with Fluids and Solids

Granted Patent: U.S. Patent 11,519,255
Grant Date: December 6, 2022
Abdulrahman S. Ahmari and Mohammed Dabbous

Drill Assembly Having a Stinger with Downward Oriented Cups

Granted Patent: U.S. Patent 11,519,241
Grant Date: December 6, 2022
Victor Bustamante and Ali M. Syed

Automatic Slips Detection System for the Optimization of Real-Time Drilling Operations

Granted Patent: U.S. Patent 11,519,257
Grant Date: December 6, 2022
Arturo Magana-Mora, William Contreras Otalvora, Michael A. Affleck, Chinthaka P. Gooneratne and Mahmoud Abughaban

Relief Valve Seal Holder

Granted Patent: U.S. Patent 11,519,510
Grant Date: December 6, 2022
Mohammed Al-Otaibi and Ricardo Rafael

Self-Sealing a Flange

Granted Patent: U.S. Patent 11,519,537
Grant Date: December 6, 2022
Endre Balint

Determining Fluid Parameters

Granted Patent: U.S. Patent 11,519,767
Grant Date: December 6, 2022
Sakethraman Mahalingam and Muhammad Arsalan

Two Methods of Determining Permeabilities of Naturally Fractured Rocks from Laboratory Measurements

Granted Patent: U.S. Patent 11,519,879
Grant Date: December 6, 2022
Chao Liu, Dung T. Phan and Younane N. Abousleiman

Controlling Degradation in a Reboiler via a Hydrophobic Coating

Granted Patent: U.S. Patent 11,524,249
Grant Date: December 13, 2022
Hasan M. Al-Shafei

Removable Trap Stations for Hydrocarbon Flow Lines

Granted Patent: U.S. Patent 11,524,251
Grant Date: December 13, 2022
Alwaleed A. Al-Gouhi, Mayadah M. Al-Hashem and Ibrahim S. Al-Dossari

Fish Retrieval from Wellbore

Granted Patent: U.S. Patent 11,525,322
Grant Date: December 15, 2022
Marius Neacsu, Ahmed A. Al-Ramadhan and Ahmed A. Al-Mousa

Method and System for Modeling Hydrocarbon Recovery Workflow

Granted Patent: U.S. Patent 11,525,345
Grant Date: December 15, 2022
Moataz Abu-Al-Saud, Subhash C. Ayirala and Ali A. Yousef

Method and System for Downhole Steam Generation Using Laser Energy

Granted Patent: U.S. Patent 11,525,347
Grant Date: December 15, 2022
Abdullah M. Al-Harith

Downhole Solids Handling in Wells

Granted Patent: U.S. Patent 11,525,348
Grant Date: December 15, 2022
Jinjiang Xiao and Chidirim E. Ejim

Method and System to Automate Formation Top Selection Using Well Logs

Granted Patent: U.S. Patent 11,525,352
Grant Date: December 15, 2022
Marwah Al Ismail and Mokhles Mezghani

Determining Fluid Properties

Granted Patent: U.S. Patent 11,525,725
Grant Date: December 15, 2022
Keelan T. O'Neil, Michael L. Johns, Einar O. Fridjonsson, Paul Stanwix, Jana M. Al-Jindan and Mohamed N. Noui-Mehidi

Determining Hydrogen Sulfide (H₂S) Concentration and Distribution in Carbonate Reservoirs Using Geomechanical Properties

Granted Patent: U.S. Patent 11,525,955
Grant Date: December 15, 2022
Otto E. Meza Camargo and Weihua Wang

Method and Apparatus for Continuously Checking Casing Cement Quality

Granted Patent: U.S. Patent 11,525,959
Grant Date: December 15, 2022
Ammar Alali, Husain Nassir and Ezzedeen Alfataeige

Robotic Inspection of in-Service Tanks through Lower Wall

Granted Patent: U.S. Patent 11,526,168
Grant Date: December 15, 2022
Zeeshan F. Lodhi and Mir A. Khan

System and Method for Optimizing Inventory Management

Granted Patent: U.S. Patent 11,526,844
Grant Date: December 15, 2022
Hasan Al-Asmari, Mohammed G. Al-Shalan, Fouad Abdulqader, Hussain Al-Qahtani and Nallakaluvan Murugan

Coated Hydroprocessing Catalyst

Granted Patent: U.S. Patent 11,529,614
Grant Date: December 20, 2022
Omer R. Koseoglu

Catalyst Systems

Granted Patent: U.S. Patent 11,529,622
Grant Date: December 20, 2022
Jaseer Ea, Barman Samir, Villalta N. Garcia, Khawaja Motaz and Xu Wei

Method of Producing an Encapsulated Hydroprocessing Catalyst

Granted Patent: U.S. Patent 11,529,625
Grant Date: December 20, 2022
 Omer R. Koseoglu

Methods and Systems of Sub-Dew Point Sulfur Recovery with Interstage Membrane Units

Granted Patent: U.S. Patent 11,550,151
Grant Date: December 20, 2022
 Eman Tora, John P. O'Connell, Ismail A. Alami and Faisal D. Otaibi

Treatment of Calcium Containing Bentonites for Drilling Fluids

Granted Patent: U.S. Patent 11,550,546
Grant Date: December 20, 2022
 Abdullah S. Al-Yami, Salem Alshammari, Vikrant B. Wagle, Hussain Albahrani, Zainab A. Alsaihati, Mohammad Alawami, Ali Alsafran, Nasser Alhareth, Abdullah Al-Awadh and Abdulaziz Alhelal

Ionic Liquid Enhanced Surfactant Solution for Spontaneous Imbibition in Fractured Carbonate Reservoirs

Granted Patent: U.S. Patent 11,550,548
Grant Date: December 20, 2022
 Ziyuan Qi and Ming Han

Casing Strings and Related Methods of Deployment in Horizontal Wells

Granted Patent: U.S. Patent 11,550,582
Grant Date: December 20, 2022
 Syed M. Ali and Victor Bustamante

Downhole Wireless Communication

Granted Patent: U.S. Patent 11,550,597
Grant Date: December 20, 2022
 Abubaker Saeed, Jarl André Fellinghaug, Henrik W. Clayborough and Vegard Fiksdal

Well Placing Using Bayesian Network Expert System

Granted Patent: U.S. Patent 11,550,609
Grant Date: December 20, 2022
 Ahmad M. Al-Abduljabbar and Adel A. Al-Qahtani

System and Method for Automatic Detection of Unintended Forward and Reverse Rotations in Rotating Equipment

Granted Patent: U.S. Patent 11,550,619
Grant Date: December 20, 2022
 Kinjalkumar P. Gohel, Mahmoud N. Mahmoud and Mohammed M. Alharbi

Analyzing Fractured Rock Samples

Granted Patent: U.S. Patent 11,550,972
Grant Date: December 20, 2022
 Hui-Hai Liu and Jilin J. Zhang

Pore Contribution Corrected Quantifying of Surface Roughness

Granted Patent: U.S. Patent 11,550,999
Grant Date: December 20, 2022
 Gabriela Singer, Songhua Chen and Shouxiang M. Ma

Picking Seismic Stacking Velocity Based on Structures in a Subterranean Formation

Granted Patent: U.S. Patent 11,551,129
Grant Date: December 20, 2022
 Xu Ji, Yi Luo and Tak-Man D. Lee

Metal Organic Framework Absorbent Platforms for Removal of CO₂ and H₂S from Natural Gas

Granted Patent: U.S. Patent 11,554,712
Grant Date: December 27, 2022
 Mohamed Eddaoudi, Amandine Cadiau, Prashant M. Bhatt, Karim Adil and Youssef Belmabkhout

Microfluidic Chip with Mixed Porosities for Reservoir Modeling

Granted Patent: U.S. Patent 11,554,759
Grant Date: December 27, 2022
 Wei Wang, Sehoon Chang and Martin E. Potizsch

Anti-Sedimentation System for Marine Vessels

Granted Patent: U.S. Patent 11,555,550
Grant Date: December 27, 2022
 Maher A. Hamad

Lignosulfonate and Hydrolyzed Carbohydrate Retarder Additive for Cement Mixture

Granted Patent: U.S. Patent 11,555,557
Grant Date: December 27, 2022
 Sara A. Alkhalaf, Abdullah S. Al-Yami, Ali Al-Safran and Vikrant B. Wagle

Polycarbonate Polyol Compositions and Methods

Granted Patent: U.S. Patent 11,555,706
Grant Date: December 27, 2022
 Geoffrey W. Coates, Chris A. Simoneau, Scott D. Allen, Anna E. Chierian, Jay J. Farmer and Alexei A. Gridnev

Drilling Fluids that Include Water-Soluble Acid Catalyst Precursors or Reaction Products of Such and Uses for Such Drilling Fluids

Granted Patent: U.S. Patent 11,555,785
Grant Date: December 27, 2022
 Vikrant B. Wagle, Abdullah S. Al-Yami and Abdulaziz Alhehal

Spacer Fluids and Methods for Cementing a Casing in a Wellbore

Granted Patent: U.S. Patent 11,555,787
Grant Date: December 27, 2022
 Sara A. Alkhalaf, Abdullah S. Al-Yami, Ali Al-Safran and Vikrant B. Wagle

Multivalent Iron Bio-Inhibitor from Waste Bauxite Residue to Control Reservoir Souring

Granted Patent: U.S. Patent 11,555,790
Grant Date: December 27, 2022
 Harry D. Odure

Sand Consolidation by Enzyme Mediated Calcium Carbonate Precipitation

Granted Patent: U.S. Patent 11,555,791
Grant Date: December 27, 2022
 Manar M. Al-Ahmari, Abdulmohsen A. Al-Humam and Mohammed A. Bataweel

Removal of Downhole Ferromagnetic Disk

Granted Patent: U.S. Patent 11,556,105
Grant Date: December 27, 2022
 Abdulrahman S. Ahmari and Mohammed Dabbous

Hollow Design for Controlled Release of Downhole Sensors

Granted Patent: U.S. Patent 11,556,115
Grant Date: December 27, 2022
 Bodong Li, Jianhui Xu, Abrar Alshaikh and Guodong (David) Zhan

Image-Based Inspection of Well Equipment

Granted Patent: U.S. Patent 11,556,129
Grant Date: December 27, 2022
 Michael A. Affleck, Chinthaka P. Gooneratne and Timothy E. Moellendick

Systems and Methods for Evaluating Subterranean Formations Using an Induced Gas Logging Tool

Granted Patent: U.S. Patent 11,556,155
Grant Date: December 27, 2022
 Mustafa A. Al-Huwaider and Shouxiang M. Ma

Smart Coating Device for Storage Tank Monitoring and Calibration

Granted Patent: U.S. Patent 11,556,561
Grant Date: December 27, 2022
 Ali Outa, Ihsan Al-Taie and Enrico Bovero

Leaf Cell Sensor

Granted Patent: U.S. Patent 11,556,679
Grant Date: December 27, 2022
 Dwight W. Swett

Method and System for Target Oriented Interbed Seismic Multiple Prediction and Subtraction

Granted Patent: U.S. Patent 11,556,865
Grant Date: December 27, 2022
 Dongliang Zhang, Ferhan Y. Ahmed, Constantinos Tsingas and Mohammed S. Al-Mubarak

Deblending Using Dictionary Learning with Virtual Shots

Granted Patent: U.S. Patent 11,556,867
Grant Date: December 27, 2022
 Rob Hegge and Rolf Baardman

Numerical Simulation of Hydrocarbon Systems with Viscosity Gradient

Granted Patent: U.S. Patent 11,556,874
Grant Date: December 27, 2022
 Babatope O. Kayode and Gabor Hursan