



NANOTECHNOLOGY FOR ENHANCED OIL RECOVERY
GREEN OILFIELD TECHNOLOGY
HEAVY OIL AND FRACTURED TIGHT SHALE OIL EXTRACTION
Exothermic Reaction in Reservoir Reduces Oil Viscosity

PRESENTED TO:



nanoeor.com

SOLUTION – NANOTECHNOLOGY FOR ENHANCED OIL RECOVERY

NaNoEOR™ is a game-changing green energy enhanced oil recovery technology

- ✓ Zero-emissions clean energy technology for heavy oil and shale oil extraction
- ✓ No competition – There is no other exothermic nanotechnology for heavy oil and shale oil recovery in the world
- ✓ Delivers nanofluid to at least 8,000 ft. for a worldwide monopoly for all oil reserves
- ✓ Potential to replace the inefficient OTSG for heavy oil extraction with lower OpEx and CapEx
- ✓ Create more shale oil production with the exothermic reaction in the formation to permeate into the fractures.
- ✓ The cost of new wells can be avoided.
- ✓ More heavy oil and shale oil recovery at a faster rate increases profit
- ✓ Minimal maintenance helps reduce costly downtime
- ✓ Off-the-shelf end-to-end complete functional nanofluid system
- ✓ Enhances efficiency of oil recovery
- ✓ NaNoEOR™ could replace the ineffective chemical surfactants

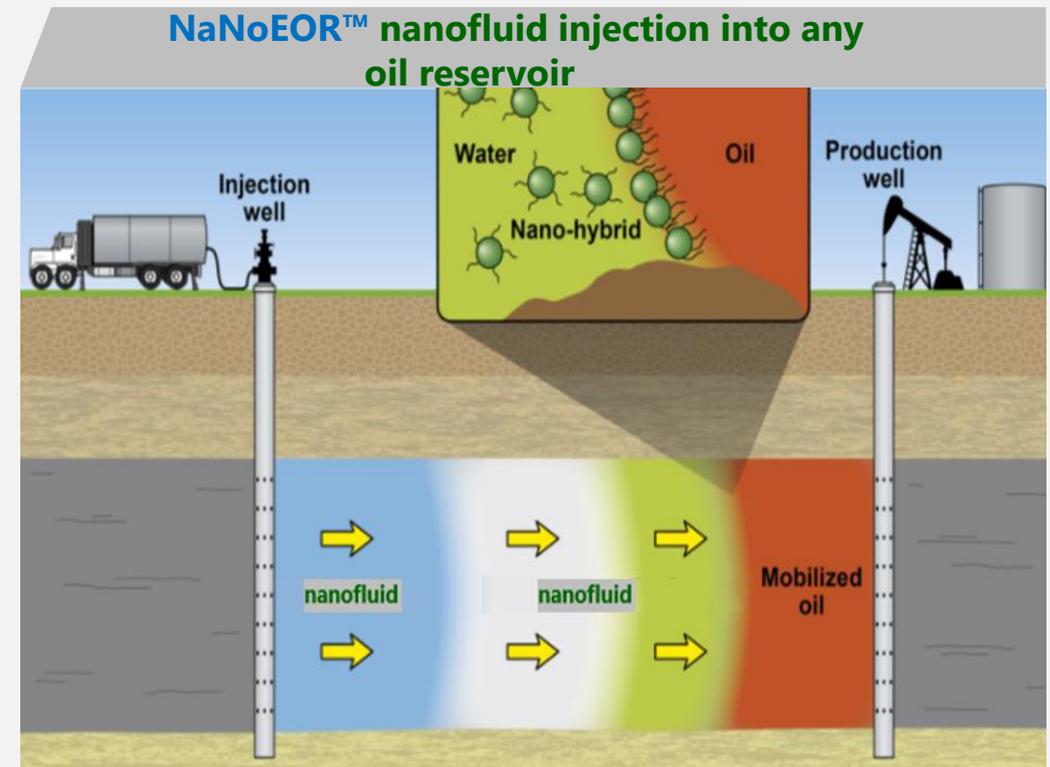
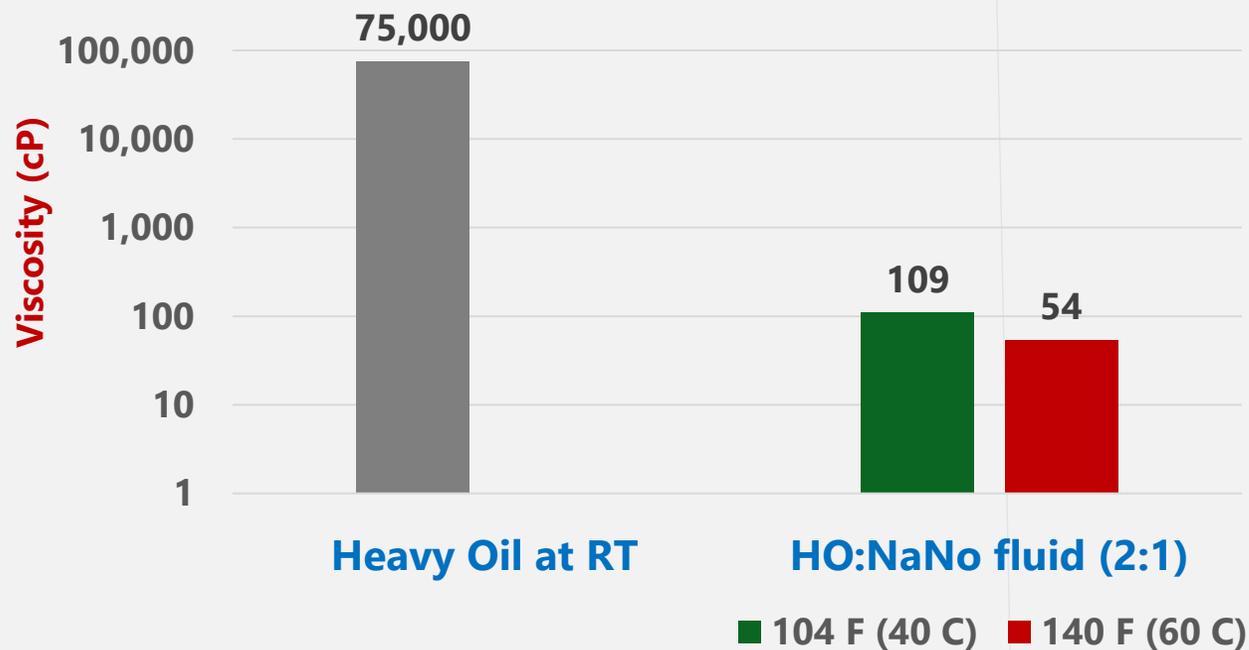
NaNoEOR™ is a transformational technology and is in a “class by itself” and therefore “unique and innovative”

PRODUCT OVERVIEW

The goal of NaNoEOR™ is to significantly improve the recovery of heavy oil and tight shale oil and eliminates greenhouse gas emissions associated with the antiquated, Once-Through Steam Generator (OTSG) for heavy oil extraction. The NaNoEOR™ technology is a transformative in-situ EOR technique for heavy oil and hydraulically fractured tight shale oil that employs a three-pronged approach consisting of the generation of heat by the exothermic reaction to reduce heavy oil and tight shale oil viscosity. The NaNoEOR™ technique does not use any fossil fuels thereby eliminating CO2 emissions from the oil extraction process. NaNoEOR's technology is a very low capital investment that just requires a novel non-toxic nanofluid, pumps and tanks. Based on these advantages NaNoEOR™ could become a game-changing enhanced oil recovery technology of any oil viscosity, as well as a new milestone to use nanotechnology to solve oil recovery problems in the petroleum industry. NaNoEOR™ could replace chemical surfactants for enhanced oil recovery.

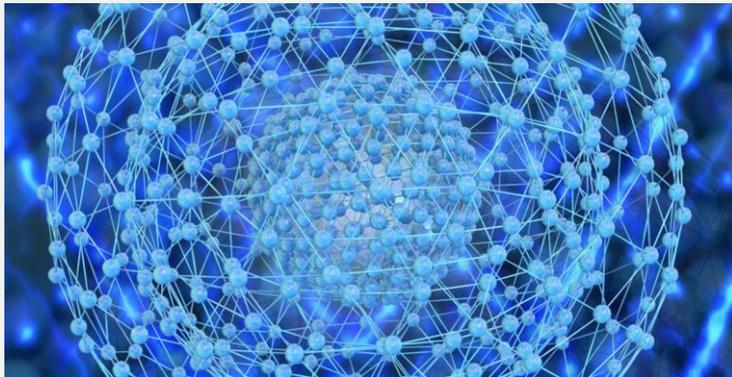
NaNoEOR™ enhances tight shale oil and heavy oil Transformative and Game-Changing Green Oilfield Technology

>99% Heavy Oil Viscosity Reduction from NaNoEOR™



TECHNOLOGY BENEFITS

- VERY Low Operating Expenses
- VERY Low Capital Expenses – nanofluid, pump and tank
- HIGH Return on Investment
- Green oilfield nanofluid reduced viscosity 94% of 13 API oil
- Enhances oil mobility and production
- Increase proved oil reserves
- Extend producing lifespan of declining oil wells
- Economical green EOR treatment overcomes depressed oil prices
- Novel green EOR treatment significantly improves oil production
- No greenhouse gas (GHG) emissions
- In-situ exothermic chemical reaction in the reservoir
- Enhanced Oil Recovery (EOR) is the future of the oil industry



Revolutionary and Transformative Nanofluid

Game-changing nanomaterials creates an exothermic reaction in the reservoir that significantly reduces viscosity, emulsifies the oil, decreases the interfacial tension between crude oil and water, and causes wettability alteration for improved sweep efficiency maximizing oil mobility for increased oil production.



COMPETITION

NaNoEOR™ has no competitors who have a proven EOR nanotechnology

Chemical surfactant companies.

EOR chemicals are used for enhancing the recovery of hydrocarbons from the well. Various types of EOR chemicals include water soluble polymers, surfactants, polymer gels, biopolymers, alkaline chemicals, and others. These chemicals are used in EOR applications to achieve the optimum performance and enhance the effectiveness of the oil recovery. **NaNoEOR™ could replace chemical surfactants.**

- BASF
- ChampionX – (Apergy/Ecolab/Nalco Group/Tiorco)
- ChemEOR
- Clariant Specialty Chemicals
- Enviro Fluid
- Locus Bio Energy Solutions
- Oil Chem
- Sasol America
- SNF Floerger
- Stepan Company
- Weatherford International

NaNoEOR™ has the lowest equipment cost for Enhanced Oil Recovery.

Competitive Advantage

NaNoEOR™ has no competitors who have a proven EOR nanotechnology

NaNoEOR™ will succeed by providing a unique, and scalable nanofluid injection system providing a proprietary nanofluid with precise injection control that improves oil displacement in the reservoir to achieve more oil at a faster rate for a lower production cost.



NaNoEOR™ nanofluid, integrated system engineering, on-site costs, equipment delivery and installation are priced separately.

CUSTOMER TRACTION

The initial international projects located in California, Texas Canada and Oman

NaNoEOR™ technology will be showcased to oil companies in Bakersfield, California.

In 2021, NaNoEOR™ is scheduled to commence an installation in Saskatchewan Canada in Proton Technologies heavy oil field. www.proton.energy

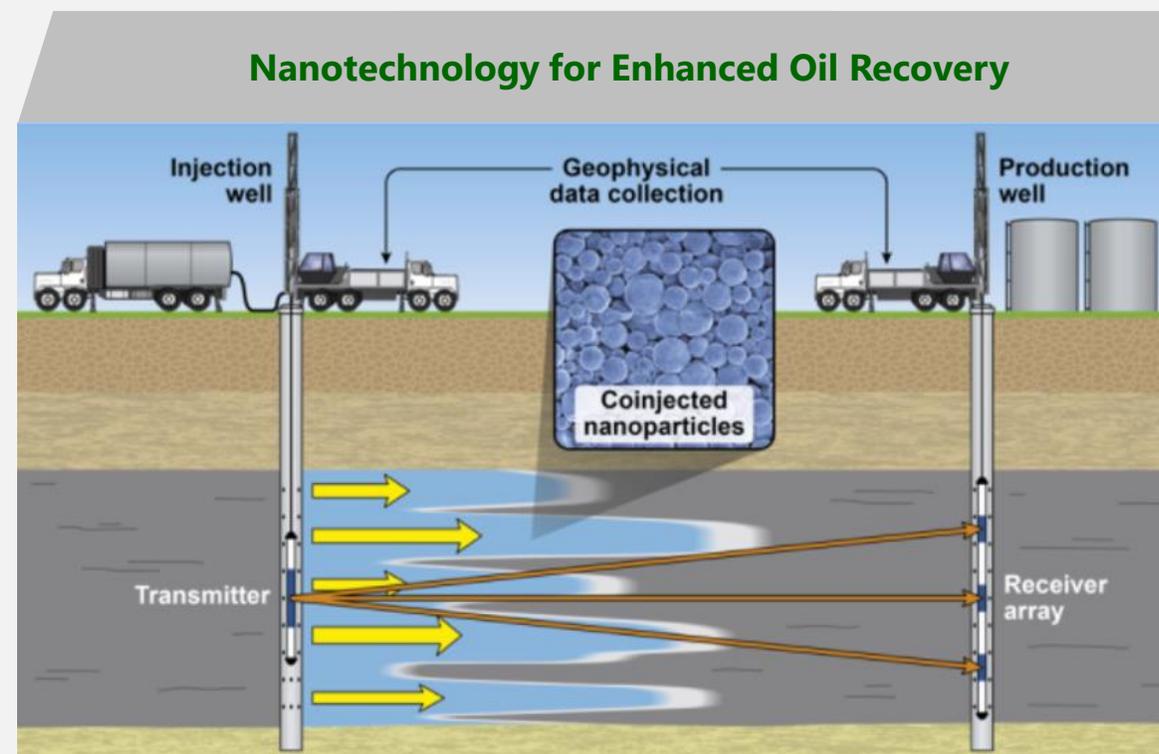
In 2021, NaNoEOR™ is planned to commence an installation in Muscat Oman in Hema Energy and Majan Energy Petroleum's Habhab 2.5 billion barrel heavy oil field. Hema Energy is the operator/partner for the state-owned oil company, Petroleum Development Oman (PDO) www.majanep.com www.hema.om

In 2021, NaNoEOR™ is planned to commence an installation in Maverick County, Texas in a 1.8 billion barrel heavy oil field.

In 2021, NaNoEOR™ is planned to commence an installation in Bakersfield California in TRC Operating Company's heavy oil field. www.trcoperatingcompany.com

Heavy oil development and production is a low-risk business as there is no exploration. The key is the extraction technology. Heavy oil recovery is above 60% of the oil in the reservoir.

Future Energy will license the NaNoEOR™ technology to companies for implementation in heavy oil and shale oil projects.



VALUE PROPOSITION

NaNoEOR™ zero emissions technology will be very profitable to its customer base

- ✓ Zero greenhouse gas emissions
- ✓ High-quality nanofluid delivered to at least 8,000+ ft reservoirs
- ✓ NaNoEOR™ successfully reduces the oil viscosity in the reservoir
- ✓ Better economics for a much lower cost per barrel of oil produced
- ✓ Lowers operating expenses reduces production cost per barrel of oil
- ✓ Advantageous and economical in a low oil price market
- ✓ Increases heavy oil and hydraulically fractured tight shale oil proved reserves that are technically recoverable
- ✓ Simple, reliable and effective Enhanced Oil Recovery (EOR) solution
- ✓ Off-the-shelf end-to-end turn-key system – no equipment manufacturing
- ✓ Energy-efficient technology delivers energy cost savings with zero emissions

More Oil Production + Lower Costs = Higher Profit Margins

- ✓ NaNoEOR™ achieves viscosity reduction of heavy oil for no fuel that achieves lower operating expenses.
- ✓ NaNoEOR™ is committed to deliver best-in-class heavy oil and tight shale oil extraction at a significantly lower cost per barrel of oil.
- ✓ **Mission Statement:** To seamlessly integrate the NaNoEOR™ technology to provide cost-effective, value-added solutions to the oil industry.
- ✓ **Company's Motto:** More effective energy-efficient viscosity reduction method to economically produce oil without greenhouse gas emissions.



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MANAGEMENT TEAM

Stuart A. Rose

Founder and Executive Chairman of the Board of REX American Resources Corporation, a New York Stock Exchange company, (NYSE:REX) and majority owner of the Future Energy and the eSteam™ technology. Stuart is Vice Chairman of the Oil Shale Exploration Company based in Utah, which is majority owned by the country of Estonia. Stuart is a rare book collector of international acclaim with a distinguished and extensive private library that spans centuries of the arts, literature, and the sciences. A gift from the Stuart Rose Family Foundation in 2013 made possible Emory University's purchase of rare manuscripts by some of the world's great poets. Stuart holds a Bachelor of Business Administration from Emory University.

Chandra Tripathy

Director of the Advisory Committee - Chandra is the President and Chief Executive of EN-FAB, Inc. located in Houston, Texas. EN-FAB was established in 1980 and has earned a worldwide reputation for sound engineering expertise, turnkey product offerings and maintaining the highest level of quality and service to their customers in the oil and gas industry. EN-FAB acquired 100% ownership of Oman Metal Industries and Contracting LLC, Muscat, Oman. EN-FAB's core capabilities is Metering, Measurement, and EOR Steam Generation. EN-FAB is registered with the Ministry of Oil & Gas as well as Petroleum Development Oman.

Kent B. Hytken

Founder, President, CEO and Director of Business Development - Kent has 34 years of experience in the California heavy oil industry involved in financing, acquisition, development and production of California heavy oil projects. Kent focuses on monitoring the local Bakersfield energy market, trends, business development, prospecting for potential clients, and maintaining current business relationships with the heavy oil customers and partners. Kent holds a Bachelor of Science in Geology with a minor in business and real estate from the University of Texas at Austin.

Christopher N. Fredd

Chris has extensive experience in hydraulic fracturing of tight/shale formations, reservoir stimulation, and new technology development. Chris worked for Schlumberger Technology Corporation for over 20-years as a Senior Engineer and technology leader with experience in diverse markets across five (5) continents. Chris holds thirty-one (31) patents. Chris holds a Ph.D. in Chemical Engineering from the University of Michigan.

Joe Fram

Petroleum Engineer – Advisor - Joe has over thirty-five years of extensive experience in heavy oil research with 16 years at Shell and 16 years at Chevron as a team leader of heavy oil in Bakersfield CA. Joe conceived and developed Chevron's \$5 million horizontal well testing facility in the Kern River heavy oil field for new steam technologies. Joe earned his Bachelor of Science degree in Petroleum Engineering from Oregon State University.

John G. Chipponeri

Engineering and Project Management - John has 36 years of extensive background in facilities engineering, operations, project management and leadership in the upstream oil & gas industry with critical skills in facilities engineering for thermal & conventional oil development, decision making, project management and project leadership with Chevron. John holds a Bachelor of Science in Mechanical and Petroleum Engineering from the University of California, Berkeley and an MBA from California State University, Bakersfield.

William R. ("Rick") Berry II

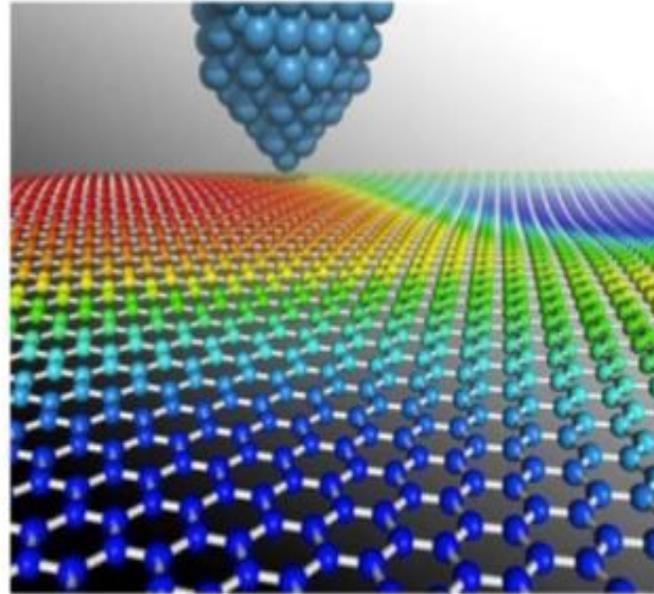
Geologist/Petrophysicist – Advisor - Rick was promoted to start and build the original petrophysical department at Occidental Petroleum Inc. (OXY). Rick left OXY to take on the new challenge of starting a geological and petrophysical consulting firm, Digital Petrophysics Inc. (DPI). DPI worked for clients in California's heavy oil projects. Rick holds a Masters in Geology from the University of Southern California.

Deborah M. Olson

Geologist/Petrophysicist – Advisor - Deborah has worked in the California heavy oil business for over 30 years as a development geologist and petrophysicist. Deborah began her oil industry career as a geologist with Getty Oil and Mobil Oil. Deborah joined the consulting firm Digital Petrophysics Inc. (DPI) and managed numerous large heavy oil reservoir characterization projects. Deborah holds a Masters in Geology from California State University in Los Angeles.

CONTACT INFORMATION

ENHANCED OIL RECOVERY FROM THE
PERSPECTIVE OF NANO TECHNOLOGY;
Changes in interfacial tension and
wettability



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