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ABOUT PREMIER COREX

COREX (UK) Ltd (PREMIER COREX) acquired by Premier Oilfield Group (Premier) in 2017, is an international provider of analytical services for the oil and gas industry, helping to improve hydrocarbon recovery whilst mitigating risk for E&P operators.

PREMIER COREX delivers specialist services including Formation Damage Analysis, Enhanced Oil Recovery (EOR), Conventional Core Analysis, Special Core Analysis, PVT & Organic Chemistry, NMR, Reservoir Geology, Geochemistry, Simulation Software & Advisory Services.

With 40+ years of experience PREMIER COREX are today recognised as one of the world’s leading Independent Core Analysis providers delivering specialist services to the majority of leading oil and gas companies worldwide. Markets served include conventional and unconventional oil and gas reservoirs throughout Europe, Africa, the Middle East, Far

PREMIER COREX HISTORY

Established in the mid 1970’s, the last 40 years have seen PREMIER COREX build up a wealth of experience across the oil & gas industry. PREMIER COREX have analysed millions of samples and are recognised as one of the world’s leading Independent Core Analysis providers.

COREX (UK) Ltd acquisition of the Core Analysis business and assets of Fugro Robertson Ltd in 2004 increased the experience, innovation and resources available to the company. The combined resources of the two businesses allowed the company to enhance our services, invest in new technologies and develop new markets.

In 2016, COREX (UK) Ltd was acquired by Premier Oilfield Group, LLC (Premier). Premier Oilfield Group was formed in May 2016 under the private equity sponsorship of CSL Capital Management. Over the next six quarters, the team acquired and integrated six businesses, focused on the generation and interpretation of rock and fluid data. Further acquisitions by Premier were formed, including the assets of the ConocoPhillips Subsurface Laboratory located in Bartlesville, Oklahoma, and NSI Technologies, LLC (NSI).

The acquisition of PREMIER COREX into the Premier Oilfield Group allows our group of companies to globalize our client base, expand in international territories, products and services and offer a more comprehensive solution worldwide.

The combined group of companies now has centers of excellence based in Aberdeen (UK), Cairo (Egypt) and Houston (USA) with front-line laboratories in Noida (India), Basra (Iraq) and recent growth in Abu-Dhabi (UAE) and Al Ahmadi (Kuwait).
Development and application of Improved Oil Recovery (IOR) and Enhanced Oil Recovery (EOR) processes using heat, solvent and chemicals are considered the most reliable options to meet the growing global demand for energy. The complexity of IOR-EOR processes and their multi-disciplinary nature generally makes the design and implementation difficult at laboratory and field scale.

PREMIER COREX has developed an integrated approach towards IOR-EOR studies to better address the needs of the industry in this field. The critical part of these services is compatibility analysis, characterization and oil displacement tests at reservoir pressure and temperature using representative fluids and rocks. The results will be integrated with PVT, SCAL, formation damage and geological studies depending on the requirements of the selected processes and the reservoir. With over 40 years of experience, PREMIER COREX provide high quality services in these fields.

PREMIER COREX also offer numerical simulation studies of coreflood experiments with the aim to improve understanding of the experimental data and the effects of critical parameters. The PREMIER COREX IOR-EOR team can provide consultancy for test design and interpretation of experimental results.

This approach is schematically shown in the following figure:
WELL AND RESERVOIR SOLUTIONS

PREMIER COREX provide the following IOR-EOR solutions to improve well and reservoir performance:

1. Near Wellbore Solutions
   - Water/gas shut off by polymer gel and/or viscoelastic surfactants
   - Water control by relative permeability modifiers in production wells
   - Conformance control by profile modifier in injection wells
   - Asphaltene/wax stability and inhibitor studies

2. Reservoir Solutions
   - Enhancing sweep efficiency by mobility control e.g. polymer flood
   - Reducing residual oil saturation by chemical injection e.g. alkaline/surfactant flood
   - Miscible oil displacement and viscosity reduction by gas/solvent injection processes
   - In depth permeability modifiers
   - Low salinity waterflood

3. Compatibility Solutions
   - Formation damage analysis of injection fluid and reservoir rock
   - Flow assurance analysis between injection, treatment and reservoir fluids

INJECTION WELL
- Thief zone treatment by polymer gel
- Conformance control by profile modifier(s)
- Formation damage analysis
- Flow assurance analysis

RESERVOIR

PRODUCTION WELL
- Water/gas shut off
- Water control by RPM
- Formation damage analysis
- Asphaltene/Wax stability and inhibitor studies

- ASP injection for mobility control and reducing Sor
- Gas/Solvent injection for miscible displacement
- In depth permeability modifiers
PREMIER COREX IOR-EOR SERVICES

The PREMIER COREX IOR-EOR portfolio of services offers the opportunity to evaluate and improve the performance of various products at reservoir conditions and to optimize injection scenarios.

PREMIER COREX PROVIDES THREE SUITES OF ANALYTICAL AND COREFLOOD STUDIES:

1. Comparative Analysis:
   The objective of comparative analysis is to compare the performance of two or more chemicals based on one (or more) selected parameters. The critical parameters are dependent on the type of the processes and operational requirements.

2. Characterization Tests:
   Characterization tests are performed to investigate fluid flow and displacement properties of chemical solutions at reservoir conditions and using reservoir rock. Flow properties of the selected chemicals will be investigated in porous media. These include parameters like rheology, resistance factor, residual resistance factor, relative permeability changes and adsorption, etc.

3. Optimization tests:
   The objective of characterization tests is to maximise oil recovery by optimizing injection and production scenarios. Different injection scenarios will be experimentally investigated. This includes parameters like slug size, injection rate and sequence, chemical concentration etc.

Acting as an independent service company gives PREMIER COREX the advantage of analyzing the chemicals and processes without bias, making reporting of the results entirely objective based on the technical interpretation of laboratory analysis.

The following figure compares the performance of two commercial RPM (Relative Permeability Modifier) chemicals to modify water relative permeability at near wellbore regions. As can be seen, product 2 shows better performance for this rock type and at reservoir conditions.
TECHNICAL CONSULTANCY

PREMIER COREX have over 40+ years of experience and can provide high quality PVT, CCA, SCAL, geochemistry and geological services, together with being the world leaders in Formation Damage.

Through an integrated approach, PREMIER COREX can provide a tailored consultancy service for the particular requirements of an IOR-EOR study through our highly experienced EOR staff.

PREMIER COREX consultancy services include:

- Feasibility studies and selection of proper IOR-EOR techniques for well and reservoir issues
- Design of a suite of laboratory tests to cover all aspects of the selected IOR-EOR techniques at field scale
- Interpretation of the laboratory results and up-scaling for modeling purposes

Since the IOR-EOR studies typically need to be significantly customized to best match reservoir conditions and client requirements it is always recommended to consider technical consultancy as part of IOR-EOR studies.

TRAINING COURSES

Investment in developing and enhancing skills has become key for continual profitability and to keep up-to-date with recent advances in technology.

PREMIER COREX offers bespoke training courses in the areas of IOR-EOR, Core Analysis, Formation Damage Analysis, NMR and PVT conducted by our experienced instructors. Our courses are based on a theory and/or practical approach designed to provide the skills and knowledge to enhance abilities in the related fields.

PREMIER COREX can provide training courses on all general and technical aspects of IOR-EOR. Each course can be tailored to specific requirements. This includes introduction to IOR-EOR, water based EOR processes, gas and solvent injection processes, EOR in heavy oil reservoirs, and IOR-EOR in naturally fractured reservoirs.
Premier Oilfield Group operate out of global laboratories based in Houston, Oklahoma City, Denver, Midland, Aberdeen, Cairo, Basrah, Kuwait, Abu Dhabi, and Delhi (Noida).

Please contact us for more information regarding COREX and Premier Oilfield Group international operations, capabilities and service portfolios.

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Further information is also available on our website:

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