GEOSCIENCES

Our services consist of multi-disciplinary geosciences consultancy with decades of experience across the oil and gas field life cycle, in exploration, appraisal and development

- Support all life cycles phases of an asset from exploration and prospect generation

- Characterization and identification of full potential of shale and gas tight reservoirs

- Detailed stratigraphic and sedimentological frameworks definition
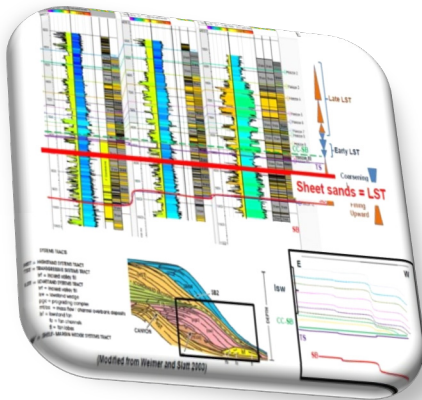
- Volumetric assessment and hydrocarbon-in-place calculation

- Well log correlations and petrophysical analysis

- Geological database well creation, consolidation and management

- Onsite well control while drilling

- Micropaleontological analysis (forams and palynology)

- Geological prognosis and drilling planning

- Integrate seismic interpretation (Amplitude, Coherence, Attributes, Inversion, and AVO), petrophysical and production data to identify drilling opportunities

- Well seismic ties/ Synthetic Seismograms/ Depth Conversion/ Velocity Models
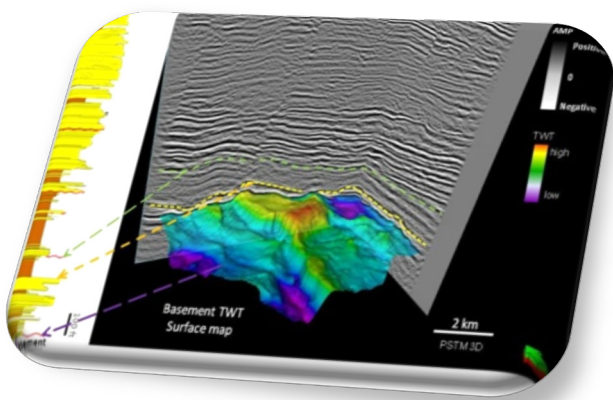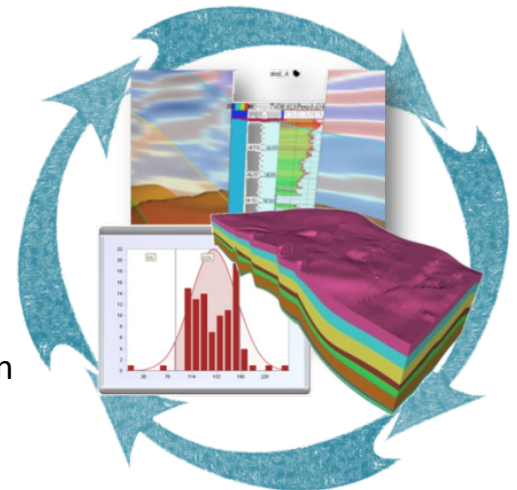
- Subsurface Mapping

- Seismic acquisition planning and reprocessing

- Prospect evaluations and assignment of geological risk to plays

GEOSCIENCES

- Integration of core description, SEM, XRD and Petrophysical data for conventional and unconventional reservoir modeling

- Geomodelling capabilities allows to geostatistically capture and validate static reservoir properties useful for numerical simulation and uncertainty analysis
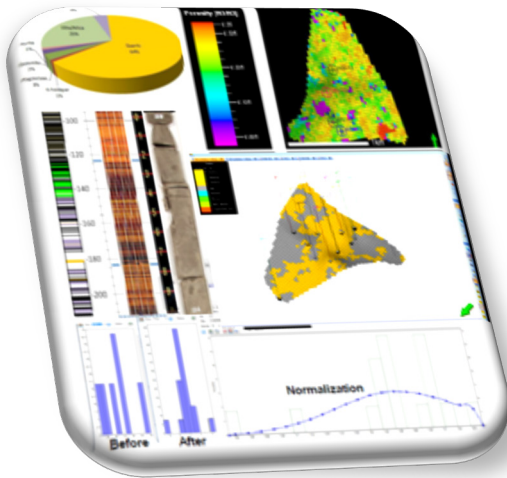
- Parallel FEM code developed and tested, coupling examples have demonstrated its suitability to handle geomechanical problems

- Developed new algorithms to reconstruct reservoir geometry applied to real datasets

- Molecular Characterization of Crude Oils and their Fractions

Boiling Point Distribution (center)
- Gas Chromatography Simulated Distillation: HT-Simdist
- Separation Techniques
- Spectroscopic Analysis
- ASTM methods
- Interpretation to Quality parameters
- Vacuum Distillation
- Atmospheric distillation

Crude Oil Classification (center)
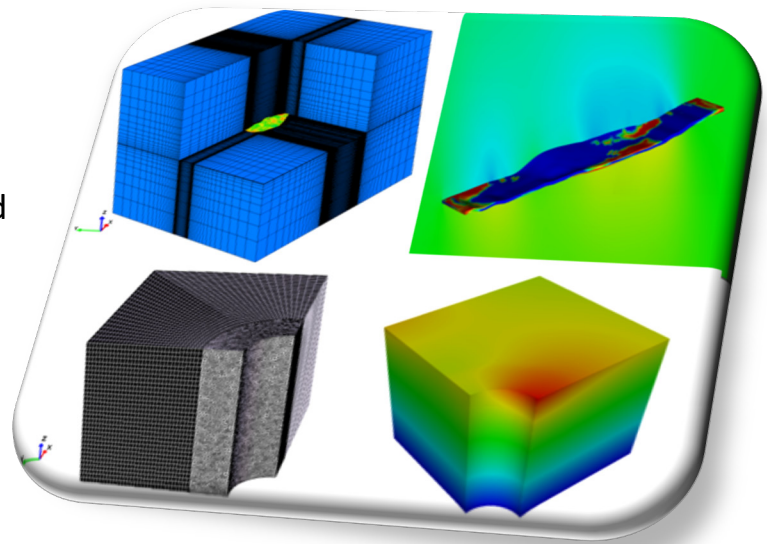- Paraffinic, Naphthenic and Aromatic carbon
- (Physical and chemical methods)
- Average Molecular weight
- Physical Properties
- Elemental Analysis (C,H,N, S, V, Ni)
- Origin and Maturity. Biomarkers Analysis
- ASTM methods
- Interpretation to Quality parameters

- Chemical and Physical Properties

- Environmental Analysis

Spectroscopic and Chemical Analysis
- Trace S and N in Ambient Air and produced waters (UV Fluorescence, Chemiluminescence)
- Trace Hydrocarbons in Air and Produced Waters (Laser Induced Fluorescence,MS, GC and GC-MS)

RESERVOIR ENGINEERING

CDEUS
Dependable Engineering & Unlimited Solutions

We provide a comprehensive reservoir engineering services oriented to increase asset value and optimize field development and planning

- Optimization of EOR and implement adequate reservoir management strategy to maximize sweep efficiency and optimize development aligned with the field development plan to maximize ultimate recovery

- Experimental design and analysis of static and core-flooding laboratory test for Waterflooding and EOR (Chemical flooding process, Alkaline, Polymer, Surfactants)

- Numerical Reservoir Simulation support for Thermal EOR projects, steam injection, steam/solvent hybrid process

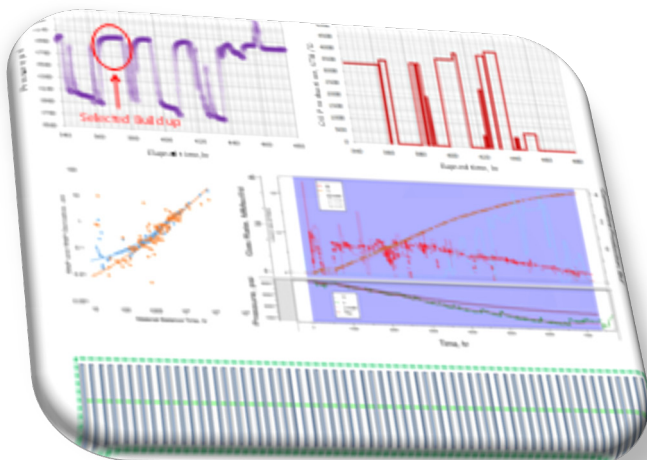- Reservoir Characterization Validation and Integration

- Heavy Oil Exploitation

- History Matching

- Identify potential infill drilling and recognize bypassed hydrocarbons

- Delineate solutions for improving field recovery efficiency

- Production optimization by identified adequate remedial work to optimize reservoir performance
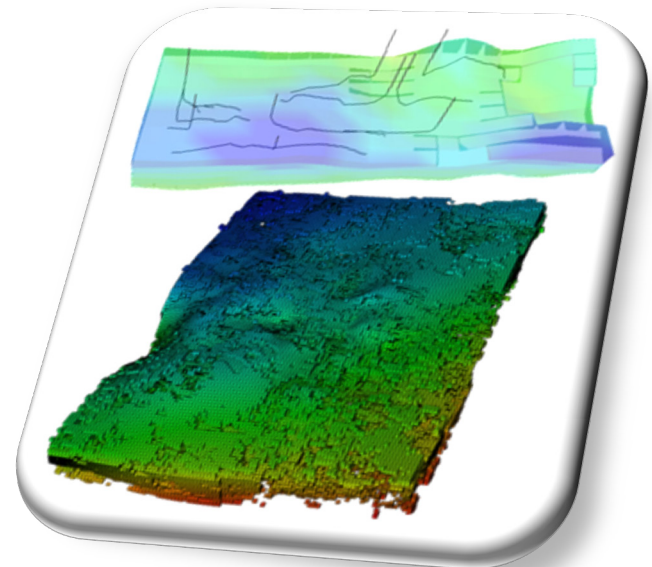
- Conventional and Unconventional well testing and production analysis

- Pressure Transient Analysis

- Material Balance calculation

- Advanced Decline Curve Analysis

- Specialized reservoir studies for hydraulic and thermal fracture modeling

- Design, monitoring, and interpretation of tracers injection program

- Tracking fluids movement, identifying injector/producer communication, and assessing reservoir heterogeneities from tracers results
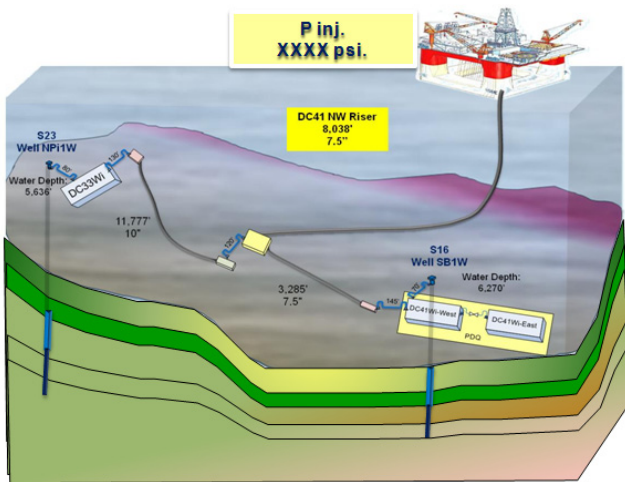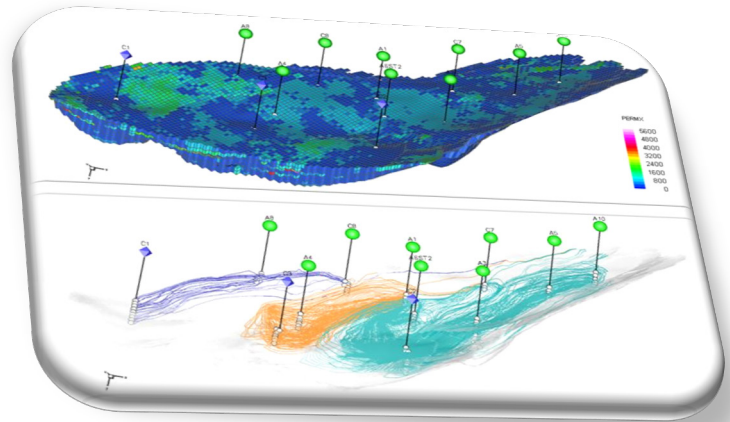

- Integrated **3S** (Surface-Subsea-Subsurface) flow model in Waterflooding projects, allowing to evaluate injectivity index, pressure and injection rate required by the water injection system during design phase

- Estimation and evaluation of reserves, incorporating field potential analysis

- Support of integrated field development plans with focus on: Risk and Uncertainty Analysis, Appraisal Planning, Screening and Ranking of Development Options, and Economic Modeling

- Reservoir Development Plan optimized by economic criteria to maximize profits

- Advanced reservoir management tools aligned with business strategy: Risks quantification, Decision trees implementation, Identification of operational scenarios, and development options ranking

- Committed to deliver timely and quality solutions to maximize the commercial value of the asset

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Dependable Engineering & Unlimited Solutions
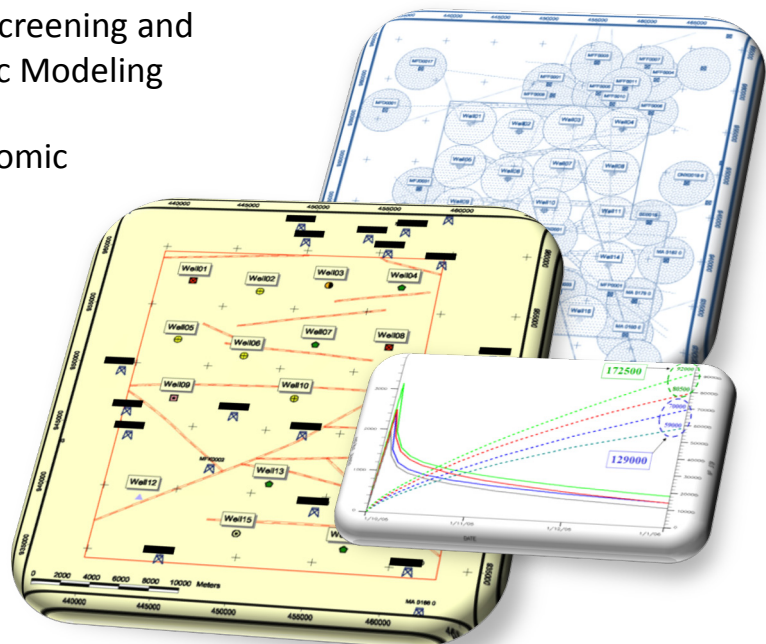
We are fully equipped with the required skills and technology to conduct any type of prospect economic evaluation for the oil and gas

- Development of economic models to determine the operating life of a project (or well) and future performance prediction

- Oil and gas property evaluation: Reporting data required to structure a deal, Investment value, and Half-life project estimation

- Capabilities available to deploy on any exploration or production project, minimizing risk of failure, and delivering a high quality product

- Management of Workover and Completion for new drills, recompletions, and remedial operations with Well Site support experience

- Directional Drilling, MWD/LWD, Mud Engineering, Cementing, Frac/Stimulation, and Completions in Unconventional, Conventional, and Deepwater projects

- Monitoring critical operations on workover rigs and rigless operations, ensuring conformance to all applicable rules and regulations, as well as meeting HES requirements.

- Reconfiguration of Artificial lift systems, plug back, completion operations on new drills, as well as numerous rod, pump, tubing and casing failures

- Procedures development for: workover/recompletion, liner installation, conversion from producer to injector, re-instatement of T/A'd injectors and producers, Commingling zones, Surface Casing leaks, H-5 failures
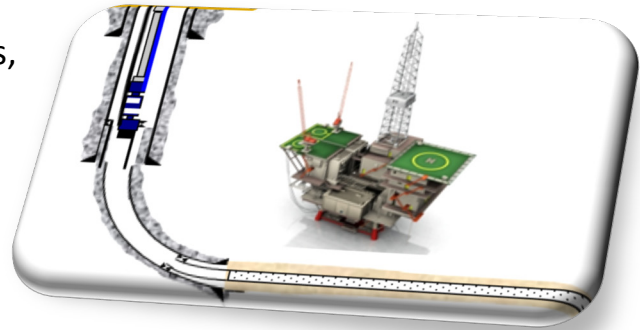
- Data Integration for Reservoirs: Different data sources scan different length scales of heterogeneity and can have different degrees of precision

- State of the art tools for Competitor analysis evaluation: Detailed comparison by common trends, and parameters to support adjusting energy portfolio accounting for reserves depletion and market behavior