

# EOR Pilots Design and Implementation



## Description:

From laboratory solutions design to field implementation, EOR pilots are a real proof of concept providing evidence of EOR technology efficiency.

The design of the EOR pilot includes the selection of the injection pattern of the target zone and the injection parameters.

This can be done by using the most advanced simulation tools

At this stage the monitoring plan is also prepared.



## Application:

- Design of injection water pre-treatment
- EOR chemical injection skid design and construction
- Chemical supply, storage and preparation
- Chemical quality control, monitoring and troubleshooting



## Results:

- Interpretation and recommendations for large scale expansion
- Short and long term chemical injectivity tests
- Production well response giving indication on the achievable incremental oil production and timing
- Residual oil saturation assessment in Single Well Chemical tracer Tests
- Topside facility issues identification and troubleshooting (oil - water separation, water filtration and de-oiling stages)

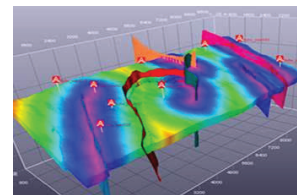


Fig 1: Saturation reduction simulation



Fig 2: Surfactant storage



Fig 3: SWCTT injection and monitoring set-up

## Challenges:

- Multiple EOR technologies exist: surfactant injection in water or gas
- Pilots are often performed in remote locations
- Injection water quality is one of the most critical aspect of field operations

## Solutions:

- Combined expertise and skills to provide high quality services to oil operators
  - Design, Interpretation and monitoring
  - Surface facility conception and construction
  - Onsite support for operation start-up, troubleshooting and routine monitoring by trained and experienced team

## Deliverables:

- Assess injectivity and performances of any EOR chemicals in field conditions
- Provide data and operational information for future economic assessment and design of expansion



Fig 4: Fluid quality control