



innovation

Reservoir Management

case study

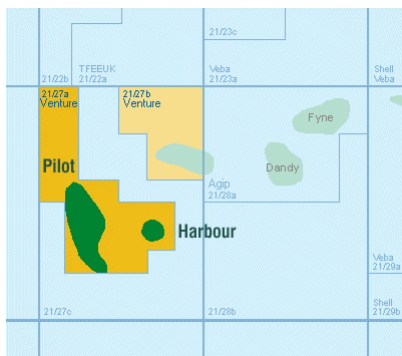
Analysis in North Sea supports high-grading IOR development options

Client: Venture

Location: North Sea, UK

Objective: Waterflood and IOR simulation, Pilot Field

The Venture Production team has a portfolio of assets in the UK North Sea, including the Pilot Field, located in block 21/27a. The low API and viscous fluids in Pilot Field, combined with the isolated nature of the field and limited reserves base, create a unique set of development challenges.



Venture turned to Knowledge Reservoir for reservoir simulation and development planning advice due to our experience in similar fields -- Captain and Mariner -- in the UK North Sea and in other viscous oil developments in both North and South America. The main focus of the study was to evaluate the potential for improved oil recovery (IOR) methods. The project objectives were to:

- Review a Venture in-house screening of IOR methods and confirm the most appropriate (or add alternative methods if inadvertently not considered by Venture)
- In close consultation with Venture, define and simulate a base waterflood development
- Simulate applicable IOR methods
- Identify and evaluate operational aspects of the IOR projects

The Eclipse simulator was used to evaluate the incremental recovery and risks of polymer and thermal flooding over a conventional waterflood development. IOR subsurface risks for key reservoir uncertainties were quantified in terms of both oil barrels and NPV. Project management was achieved through regularly scheduled meetings and electronic data exchanges.

The study result enabled Venture Production to "high-grade" the IOR development options for better project decision making.