

Pelican Petrology & Mineralogy | 2014 TAQA Bratani Ltd

Project phase: Appraise

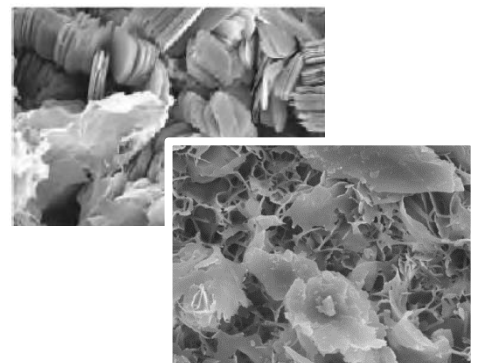
Dundas scope: Pelican Core Description & Integration Of Results Into Existing Dataset

PROJECT DESCRIPTION

The Pelican field is located in block 211/26-4 of the East Shetland Basin, in the Northern North Sea. Pelican was developed as a subsea tie-back to the Cormorant Alpha platform and commenced production in 1996.

In 2008 the field was acquired by TAQA who identified remaining potential and re-development opportunities. The study was initiated by TAQA, as part of their re-development evaluation, to further understand the diagenesis and reservoir quality degradation. It included the description of recently acquired core and the integration of the results with the existing Pelican dataset, including previous core evaluations and models.

ILLITE MORPHOLOGY VARIATION



DUNDAS ROLE

To develop an understanding of the main controls on reservoir quality degradation Dundas evaluated and integrated the new core data with the existing core evaluations available for the field. A review of the available published literature on the diagenetic history of deeply buried Brent reservoirs in the Pelican area was also undertaken. The precipitation of illite is deemed to be the main cause of degradation in the Pelican reservoir and this formed the main focus of the study.

A conceptual diagenetic picture was established in which the abundance of illite in the reservoir was correlated to the depositional environment, illite precipitation constraints and reservoir depth. This correlation allowed for the major controls on reservoir quality to be established. A conceptual picture of diagenetic modification was established such that, once calibrated, could potentially form the basis of a petrophysical model of the Pelican reservoir. By identifying additional studies that would further aid reservoir characterisation, Dundas also established a way forward for the project and field understanding.