

North Sea Development: Appraise Study | 2013

Confidential

Project phase: Appraise

Dundas scope: Reservoir Description
Reservoir Engineering
Development Engineering
Petroleum Economics

PROJECT DESCRIPTION

The UKCS has seen a number of developments dating from the 1970s and 80s transfer to new operatorship, or prospective acreage recycled via the licensing rounds. In this instance, an opportunity had been identified by a new entrant for near field exploration combined with redevelopment of an existing hydrocarbon accumulation.

Assessment of the likely range of recoverable hydrocarbon volumes, injection fluids and artificial lift services was required, together with identification of an economically viable development concept.



DUNDAS ROLE

Our consultants were engaged to work with Joint Venture teams, specifically delivering reservoir engineering, development engineering and petroleum economics experience and skills.

Reservoir simulation and decline curve analyses were used to generate production and injection profiles, honouring the perceived exploration risk and range of uncertainty in remaining recoverable hydrocarbons. Development concepts, both conventional and novel, were screened and an iterative process adopted to deliver alternative, fully integrated production and cost profiles. Sensitivity analysis was used throughout to focus technical work in areas having material impact on project economics.

Having evaluated a thorough range of development concepts, evaluations revealed that even assuming 'upside' recovery for each, the project economics remained consistently weak. The analyses thus assisted the operator in taking a decision to redeploy its staff onto more attractive opportunities, until a step-change in costs or recovery could be envisaged.

