

Case Study

Demonstrating Chronological “Goodness of Fit”



ANGEL, AUSTRALIA

CHRONOLOGICAL SEQUENCE FOR THE ANGEL GAS FIELD, NORTHWEST SHELF, OFFSHORE AUSTRALIA

Angel, a natural gas field offshore Australia, shows Sky Hunter's ability to predict the size and shape of hydrocarbon reservoirs using airborne microseep survey technology.

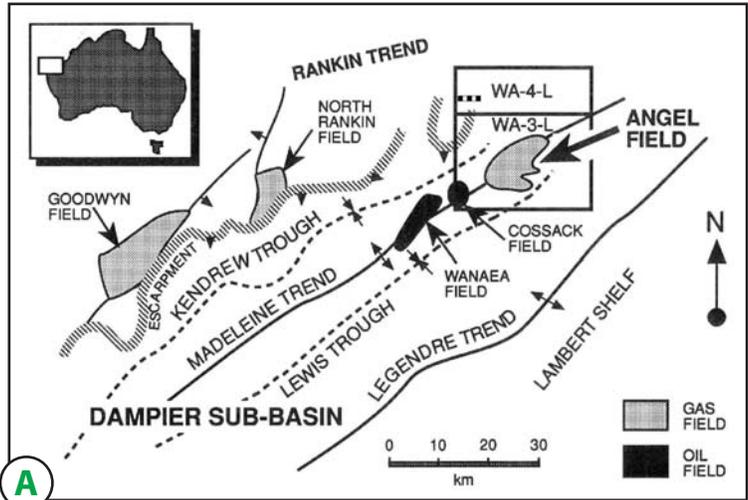
The pool was first identified in 1971 with the drilling of the Angel-1 discovery well. Angel-2 and Angel-3 were drilled during the next two years.

In 1989 an airborne microseep survey was flown while the field still had virgin reservoir pressure. Subsequently, an additional 450 kilometres of 2D seismic was acquired followed by the drilling of Angel-4 in 1990. Angel-4 tested structural continuity between Angel-1 and Angel-2. Thereafter a 3D seismic program was shot to confirm the pool's delineation.

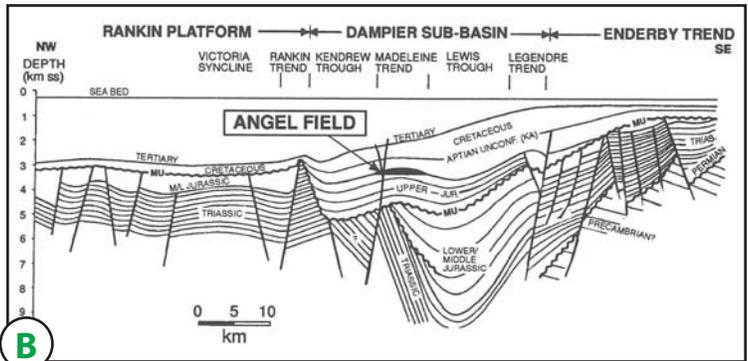
A & B show geological knowledge of Angel area at time of survey in 1989.

C shows cross-section with pool depth, ocean depth (80 metres) and survey height (100 metres) above sea level.

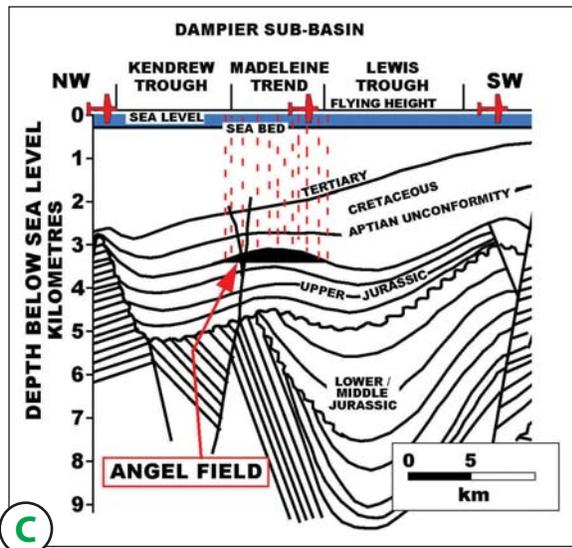
D shows airborne survey and resulting footprint, screened on facing page images.



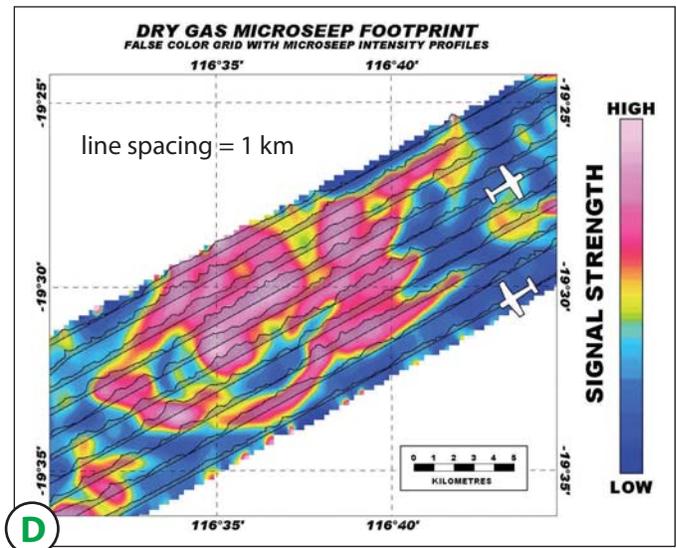
A



B



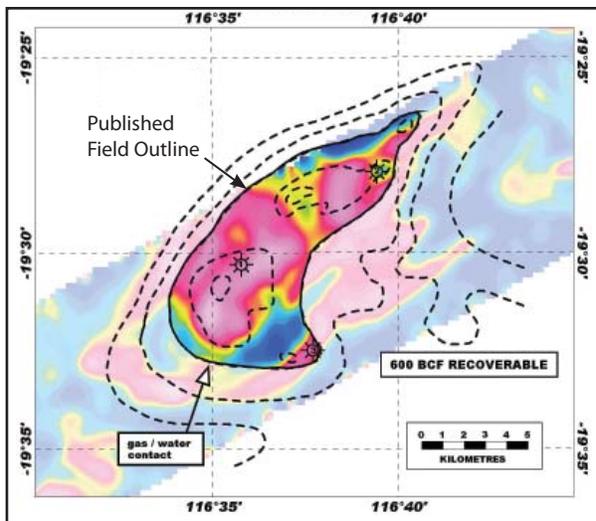
C



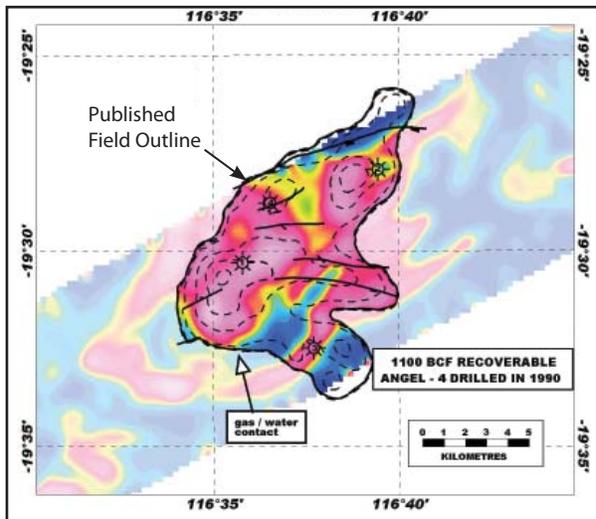
D



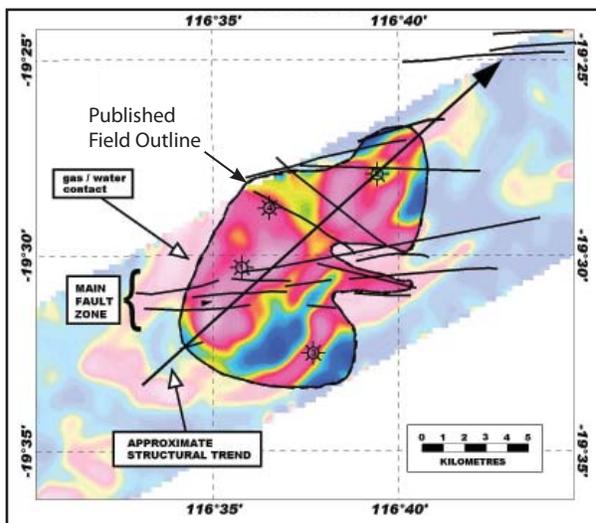
1982



1991



1995



Structure maps based on seismic and well data available over time:

The microseep footprint displays an improving “goodness of fit”

with successive published natural gas pool outlines as the recoverable reserves were increased from 600 BCF (1982) to 1,100 BCF (1991)

and the gas/water interface was refined with 3D seismic in 1995.

Note: Microseep footprint from image C is screened onto each map underlying the 1982, 1991 and 1995 published field outlines.

