

GSC Open File 4572 (sheet 2 of 2)
EAST COAST BASIN ATLAS SERIES
GRAND BANKS OF NEWFOUNDLAND
HYDROCARBONS II
HYDROCARBON PROSPECTS AND FIELDS 2

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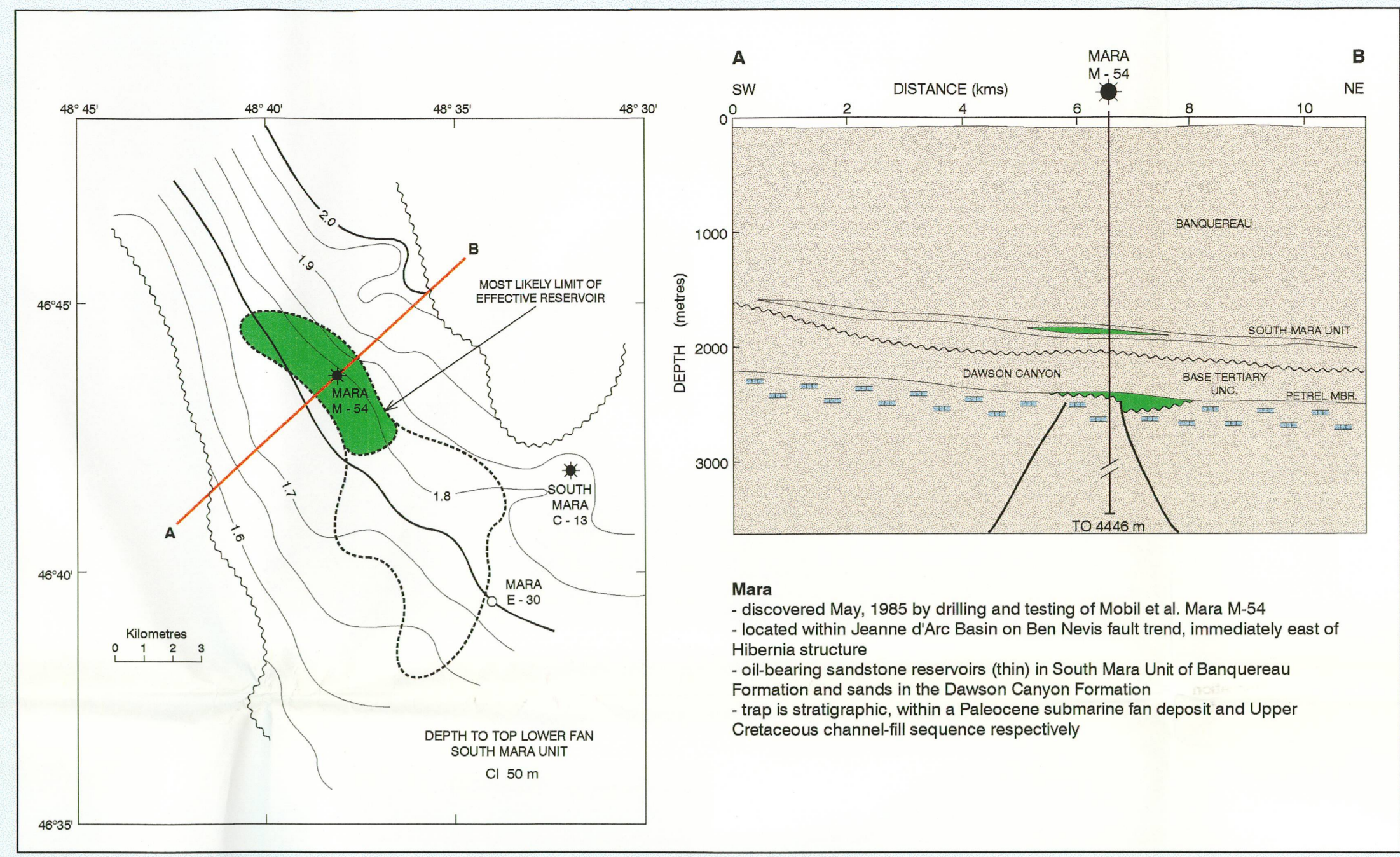


Figure 8

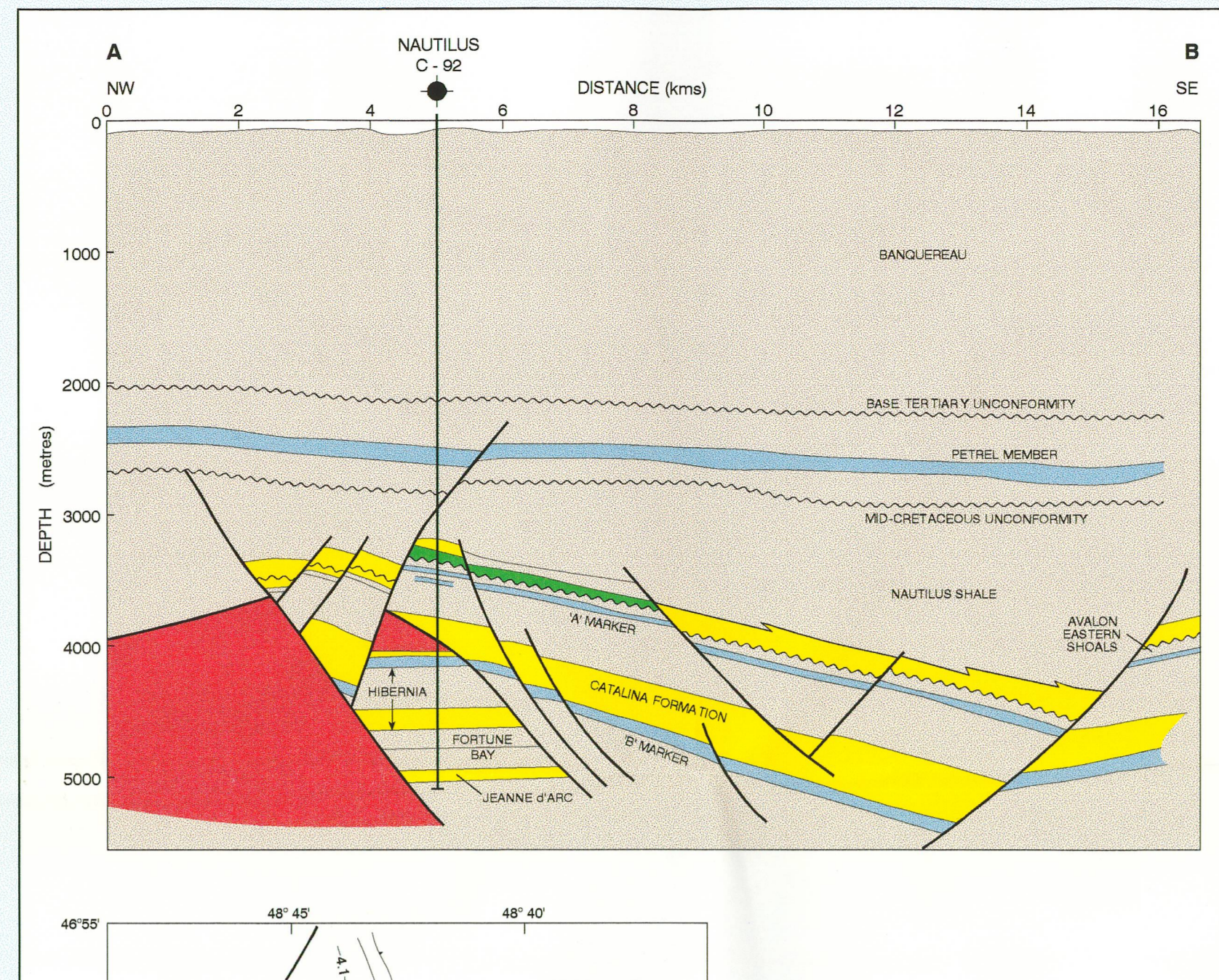


Figure 11

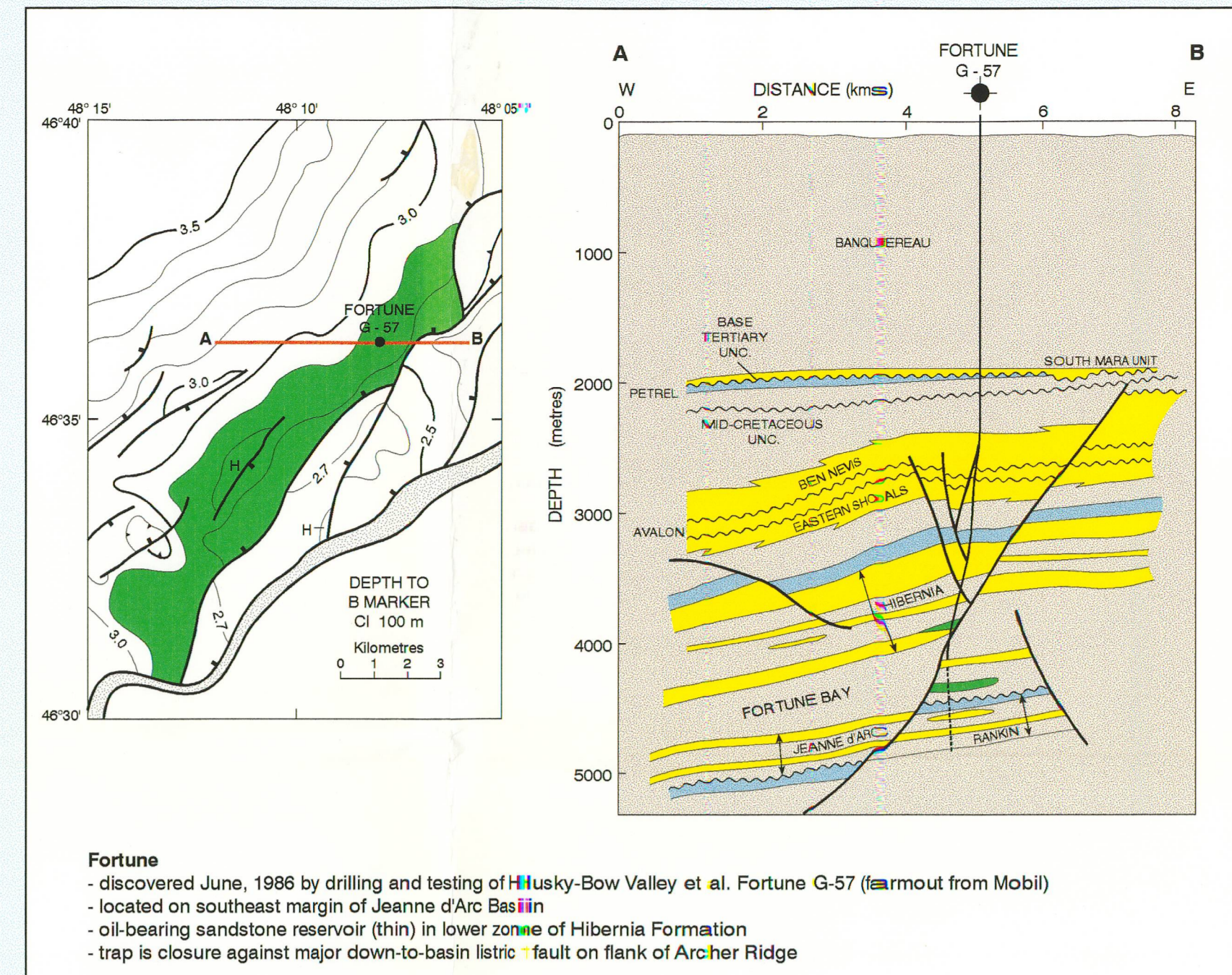


Figure 14

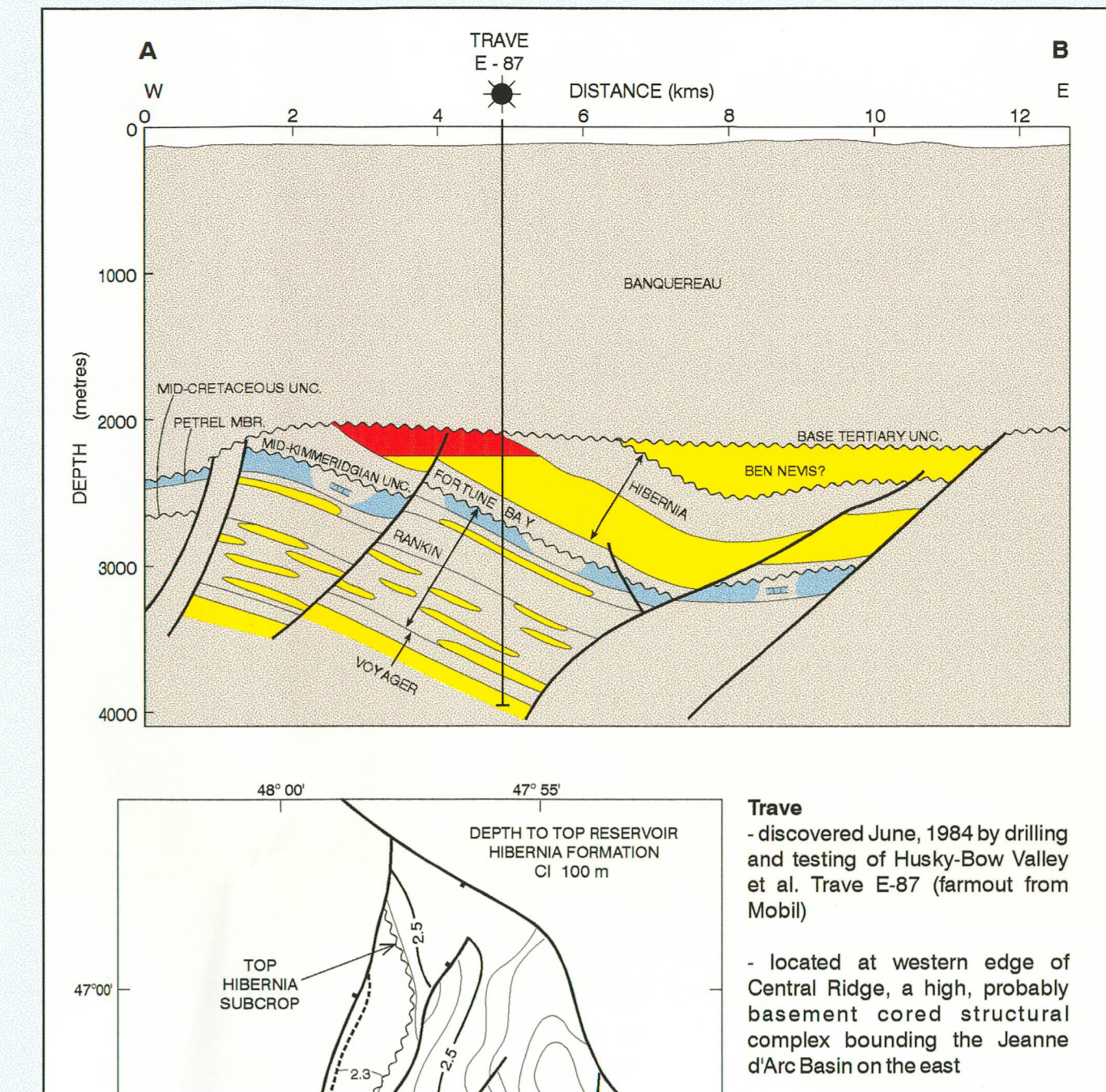


Figure 17

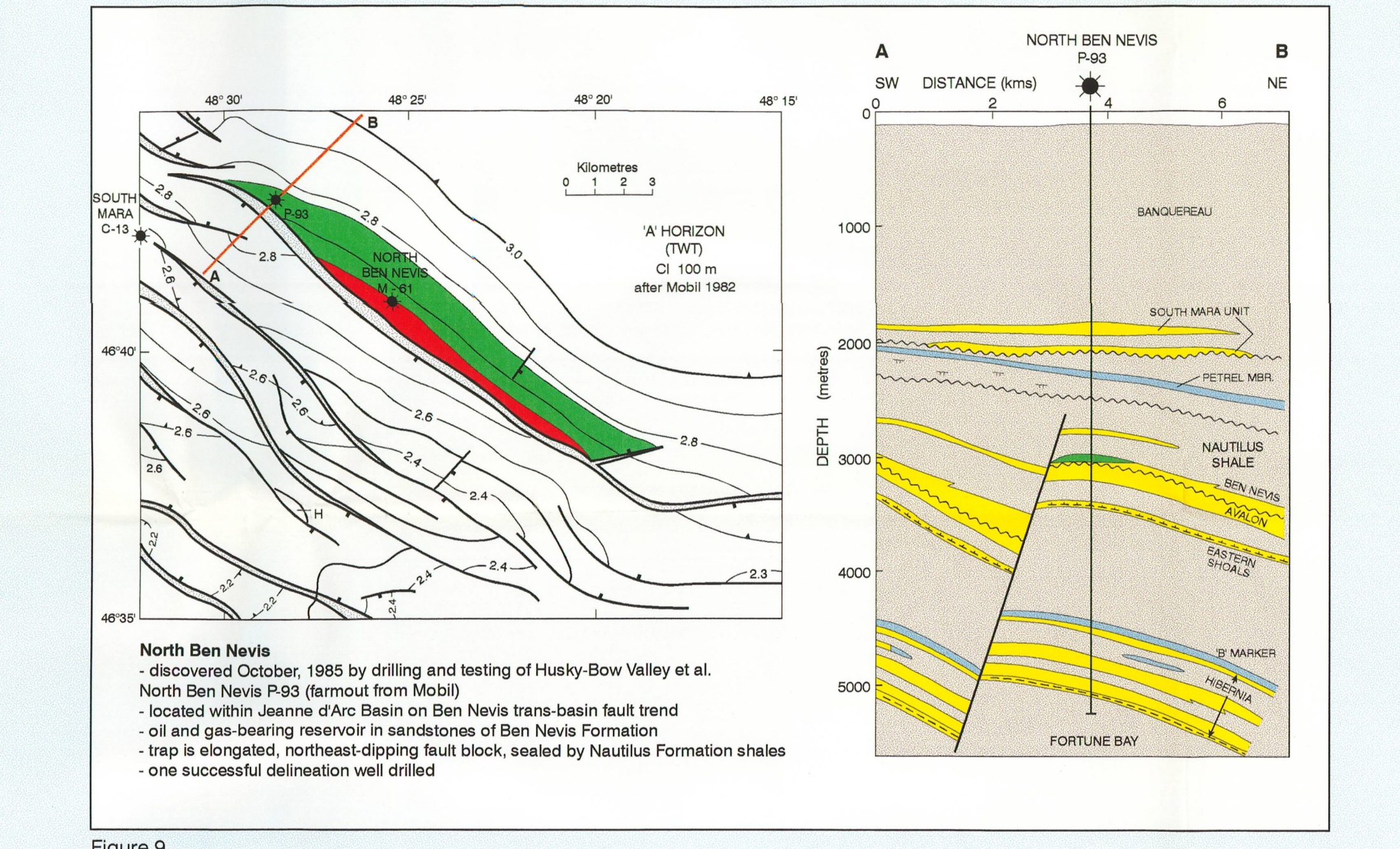


Figure 9

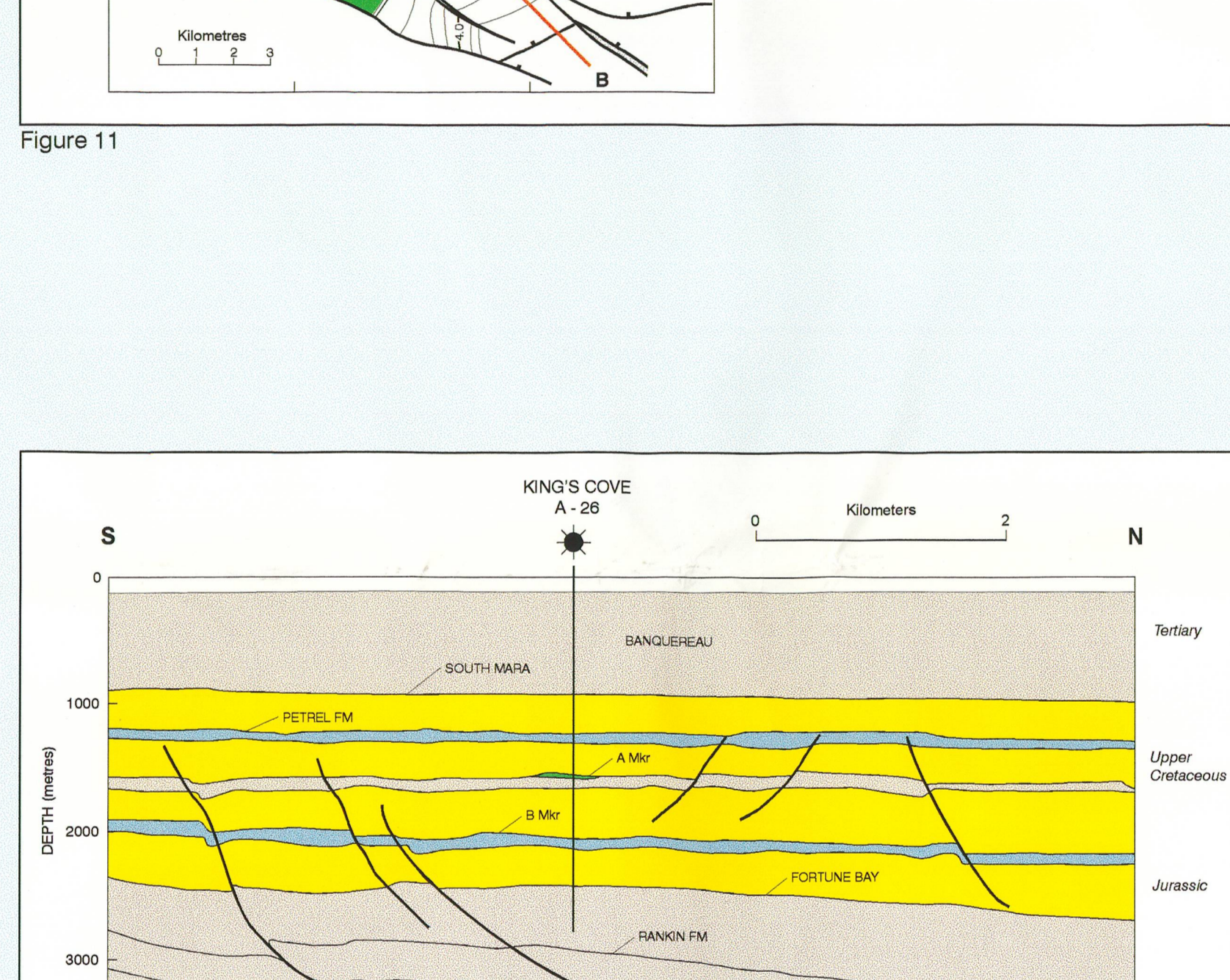


Figure 12

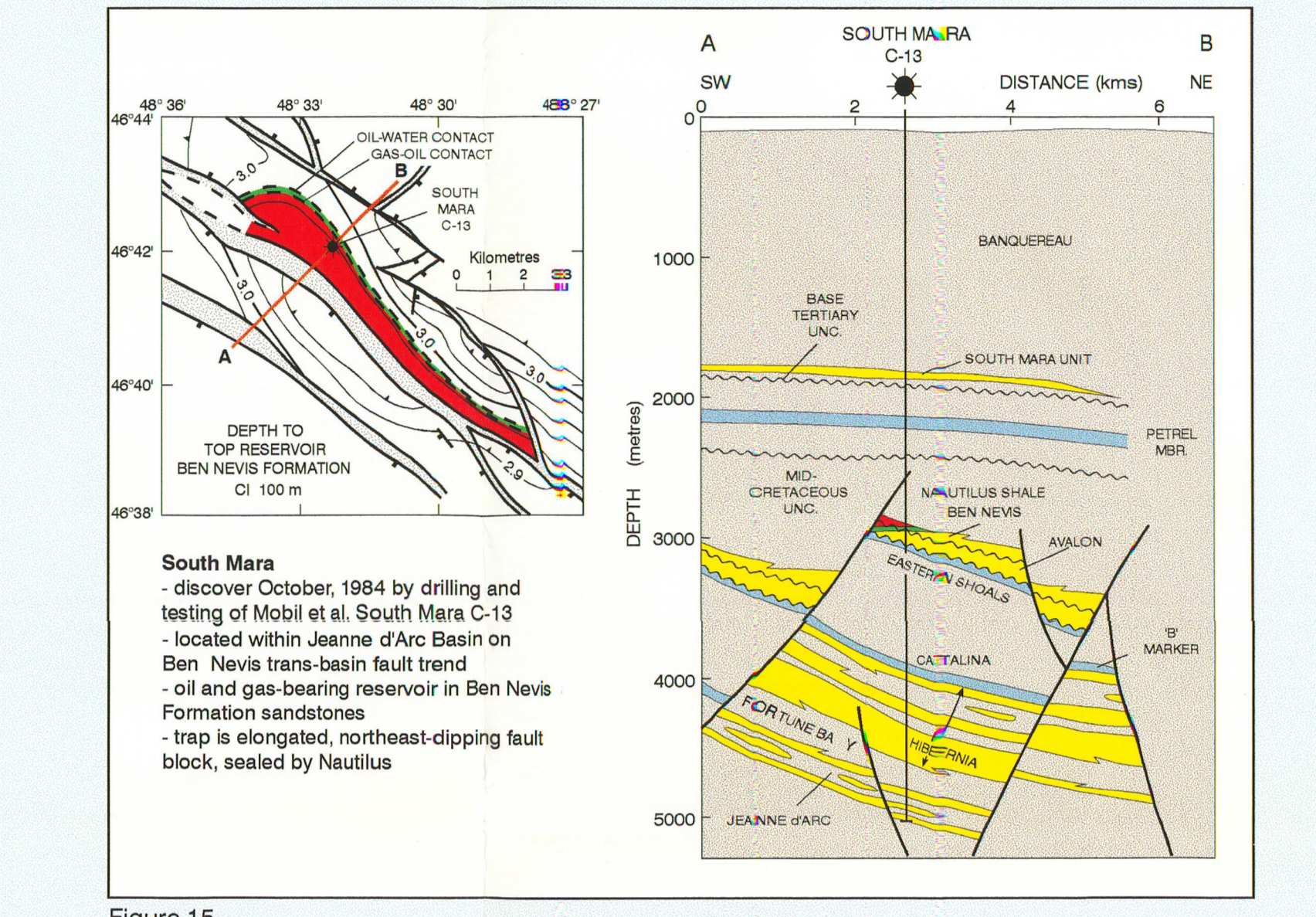


Figure 15

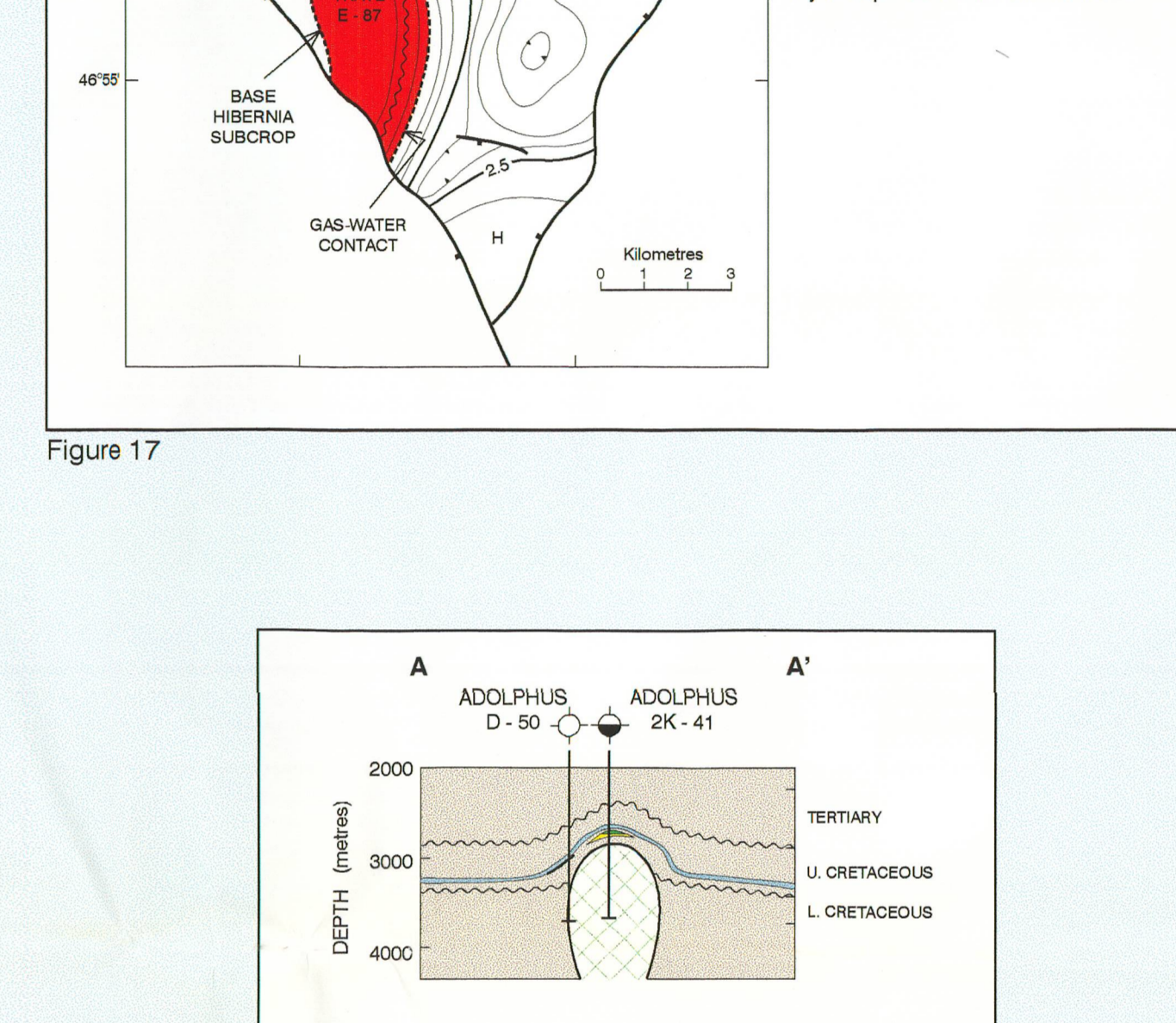


Figure 18

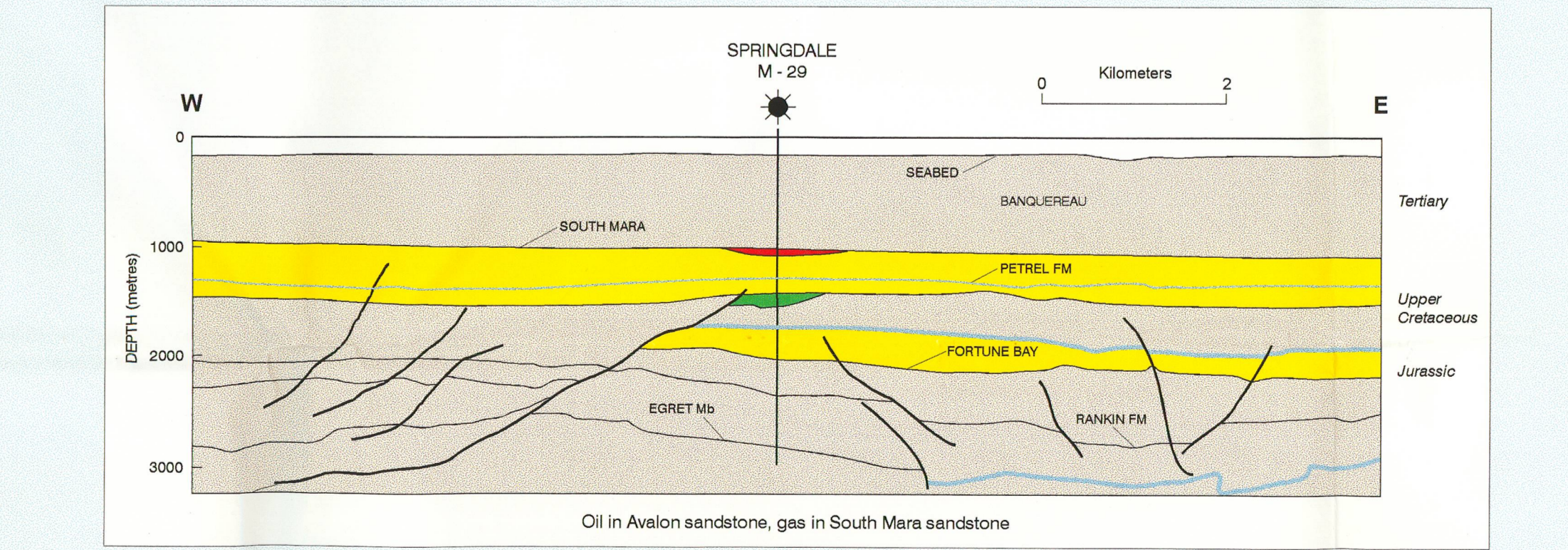


Figure 10

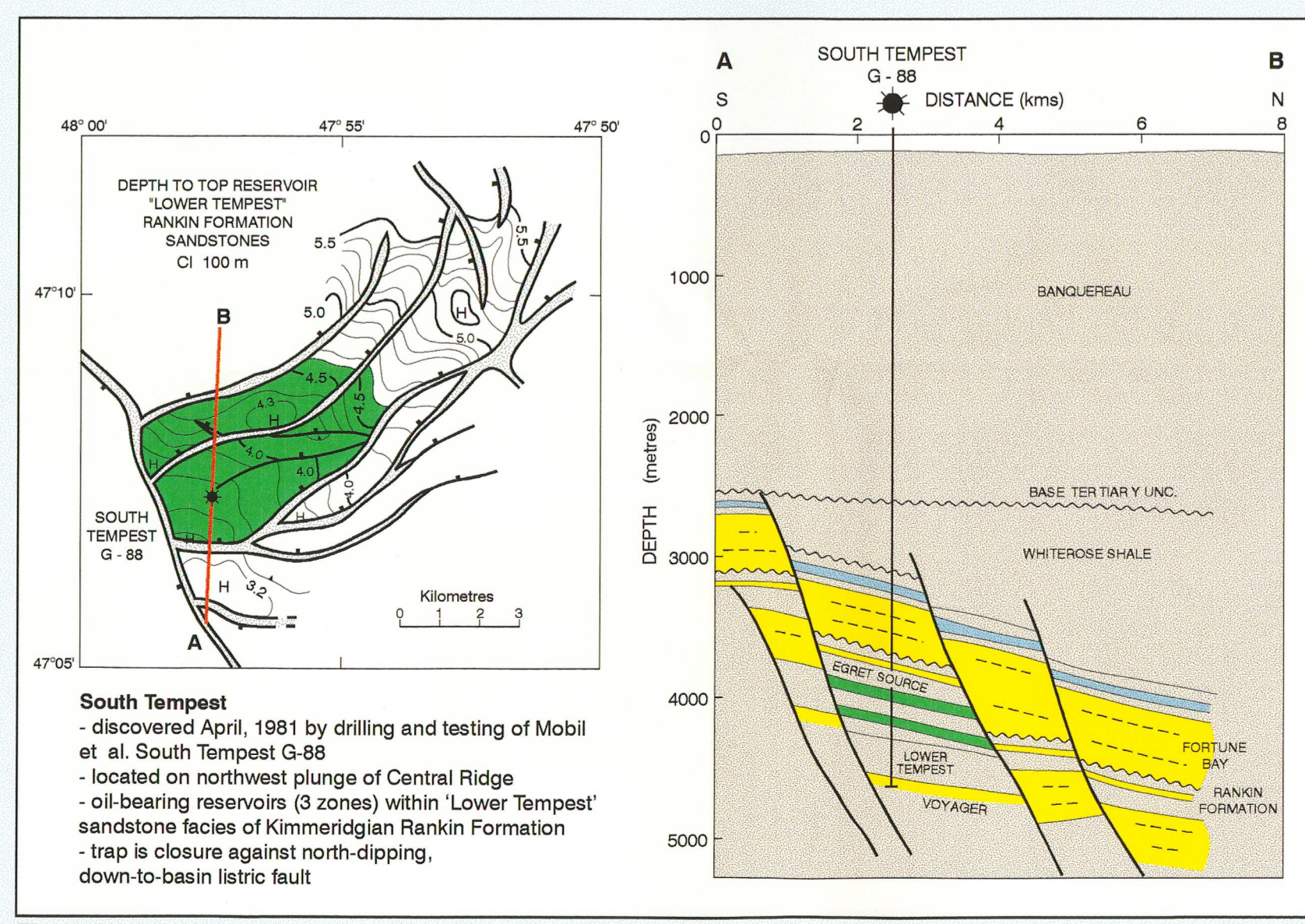


Figure 13

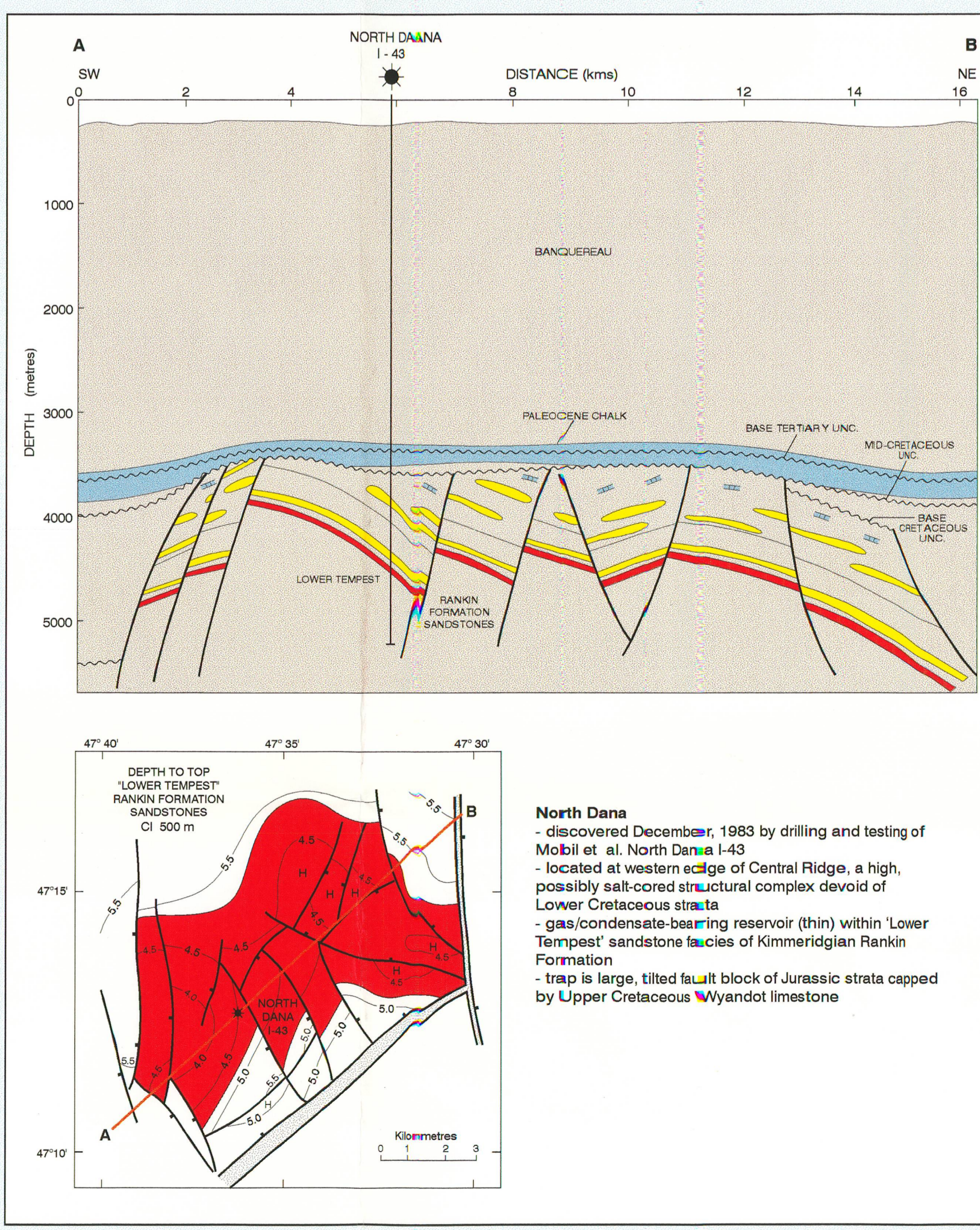


Figure 16

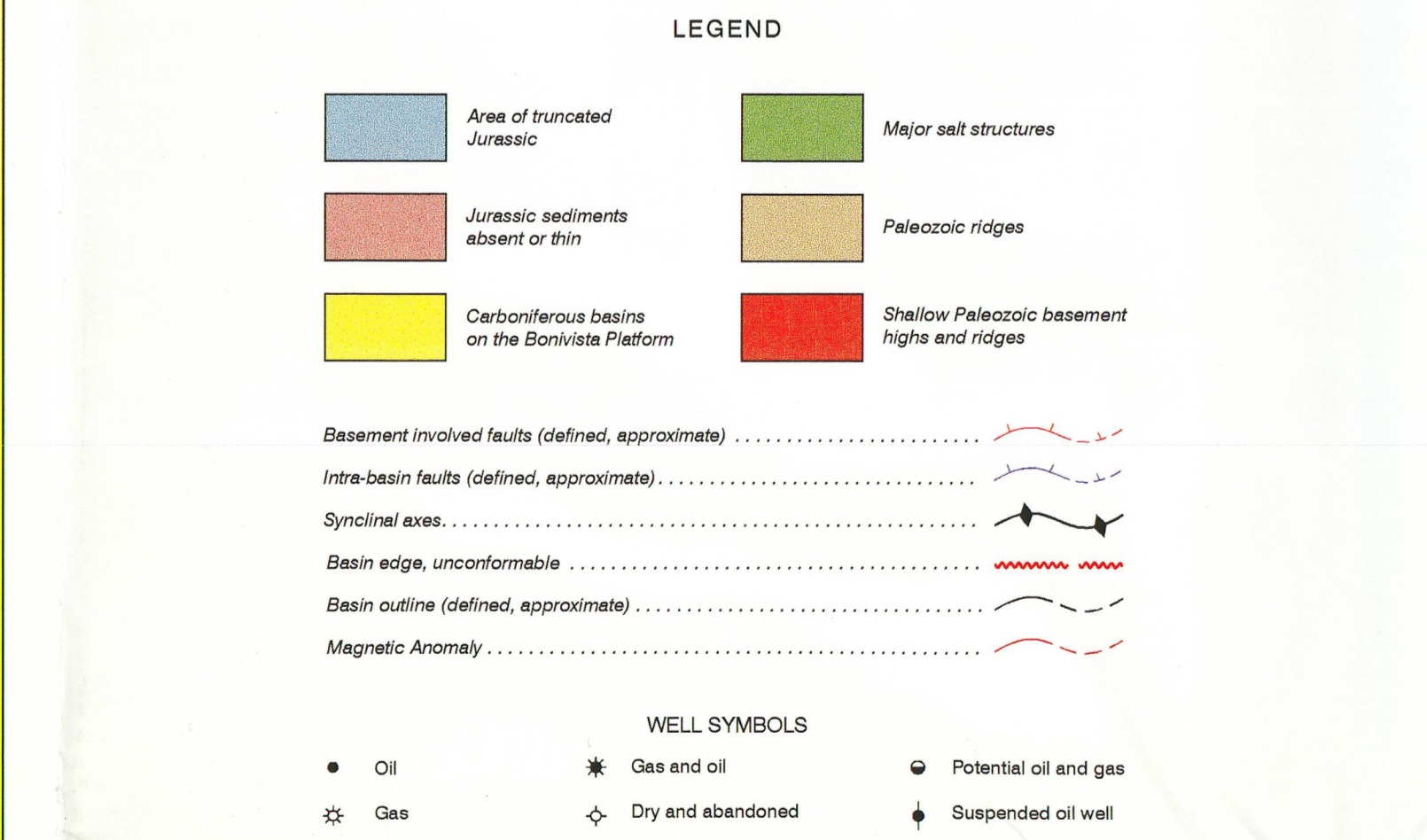
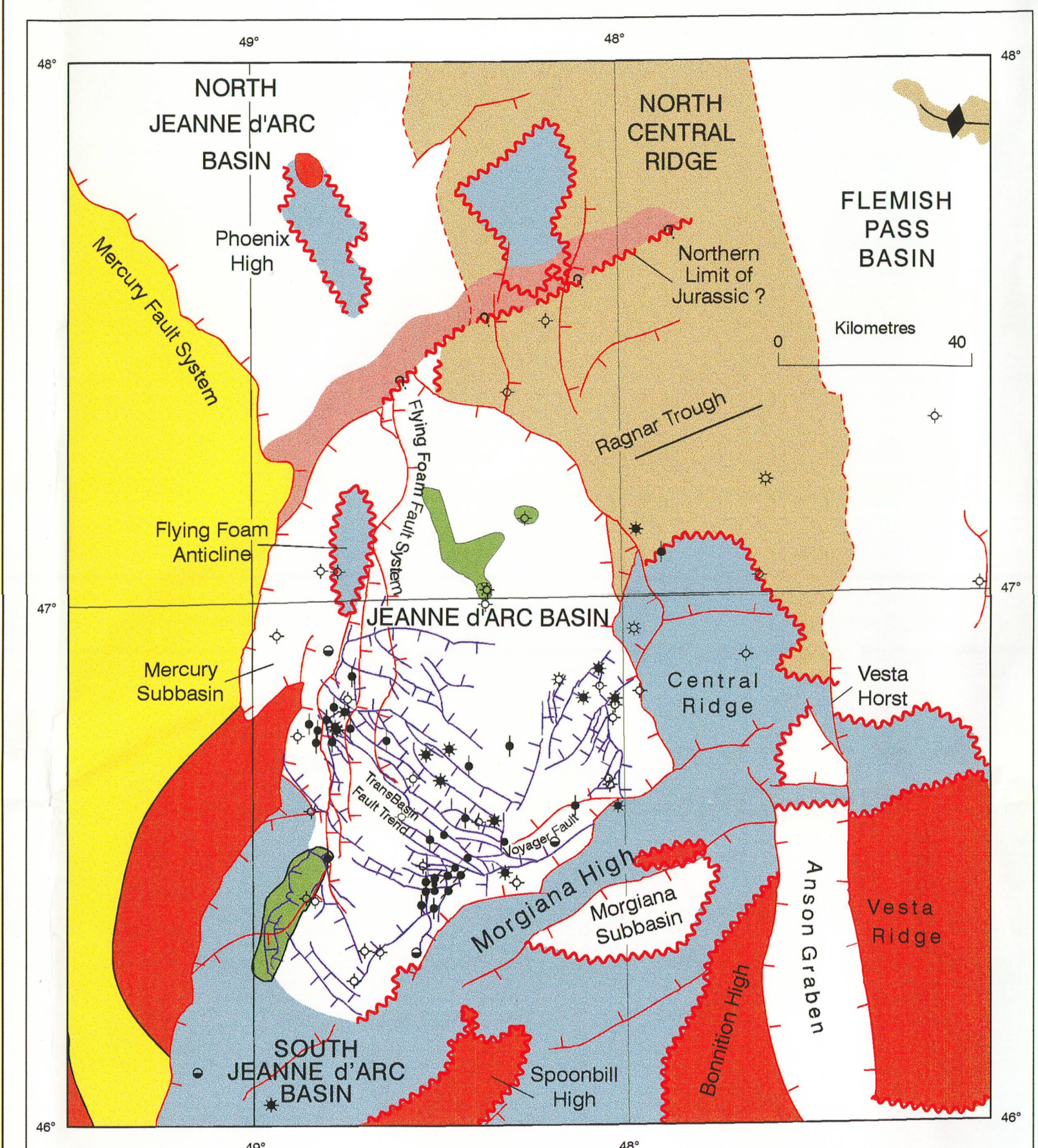
The Fortune structure (Fig. 13), also on the eastern basin margin, is a relatively simple, tilted fault block, bound to the east by a major N-S to NE-SW-trending fault. Seismic and well data indicate fault growth during both the Tithonian to early Valanginian and Albian times.

The two discoveries on the Ridge are at Trave and South Tempest. The Central Ridge, which bounds the Jeanne d'Arc Basin to the east, is a high-standing feature with a multitude of fault blocks and salt-cored anticlines. This ridge initiated as a low amplitude feature in the Late Jurassic to early Valanginian but was greatly uplifted and fractured in the Albian (Sinclair, 1988). The Trave structure (Fig. 16), located along the western margin of the ridge, is a southeast-trending and truncated fault block capped by Tertiary shales. South Tempest (Fig. 12), located on the north plunge of the Central Ridge, is a series of tilted fault blocks, defined by a series of NE-SW trending faults which intersect with NW-SE trending fault.

The North Dana (Fig. 13) structure at the eastern end of the Central Ridge, is a structural low separating the Central Ridge from the North Central Ridge which is a tilted and truncated salt-cored anticline and fault block bound by normal faults on three sides. The history of the structure is similar to that of the Central Ridge.

Hydrocarbons are trapped in most of these discoveries by abutment of reservoirs against shales and limestones across bounding faults. The Terra Nova and Trave discoveries have an additional stratigraphic trapping component, with reservoir pinch-out against the southern margin in Terra Nova. In Trave the subcrop of the reservoir to impermeable Tertiary cap rocks provides the trapping mechanism. In the White Rose structure, Nautilus Formation shales overlying domed Ben Nevis Formation reservoirs trap hydrocarbons. The Mara discovery is strictly a stratigraphic trap of essentially restricted sandstones enclosed in Tertiary shales. These examples underscore the importance of the stratigraphic component of trapping involved in the Jeanne d'Arc Basin.

Note that Adolphus (Fig. 17) is classified as an oil show and is included to show its structural style.



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