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The Albian-Turonian Natih formation was deposited in a wide platform setting on the Arabian plate. In the Lekhwair High (in the north west of Oman), the Cretaceous formations are truncated by the Base Tertiary Unconformity. The subcrop beneath the Base Tertiary Shammar Formation, which acts as a regional seal, has a semi-circular shape with sub-cropping formations ranging from Fiqa at the edges to the Shuaiba Formation at the centre of the Lekhwair High. This truncation geometry generates trapping mechanisms for hydrocarbons where Shammar and intra-Natih, act as top and lateral seals.

The truncation play concept is a combined structural/stratigraphic trap. Some Natih leads have been identified in the Natih C and Natih E reservoirs. The biggest identified prospect is “E1” with the Natih E subunit as reservoir.

Four prospects were drilled in 2009-2010 in the Natih C reservoir. These prospects from north to south are: “C1”, “C2”, “C3” & “C4”. Although these four prospects in the Natih C have the same concept, have similar present day top reservoir depth, and geographically are in the same area, only the two northern prospects (C1 & C2) were actual oil discoveries. The southern prospects (C3 & C4) had oil shows only. The observed Oil Down To (ODT) in C1 is deeper than in C2. The oils in C1 & C2 are from a Natih source.

A paleo-reconstruction revealed that both C1 & C2 had a closure in pre-Oligocene times, whereas C3 & C4 were not closures then. This suggests that the main charge timing is pre-Oligocene in this area. This observation is supported by evidence of tilted OWCs in the Natih and Shuaiba formations in fields nearby. The charge timing puts a higher risk on traps formed after Oligocene times.

The paleo-reconstruction of the (undrilled) E1 prospect revealed that the present day closure did not exist in the pre-Oligocene. The conclusion from this work is that the main charge phase for the Natih reservoirs in the Lekhwair High is pre-Oligocene. This charge timing puts higher risk into traps that formed in the post-Oligocene period (like the E1 prospect).