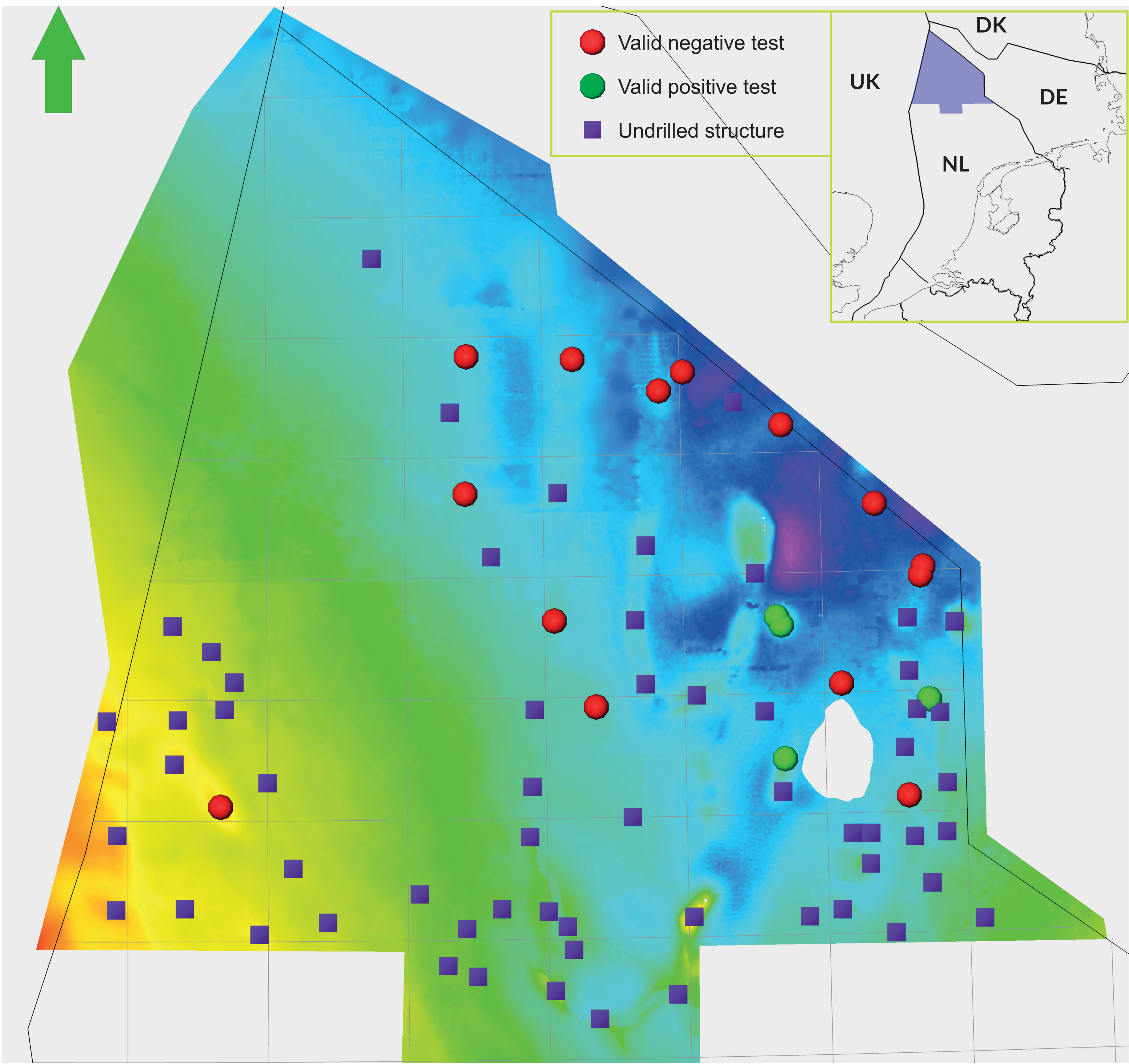
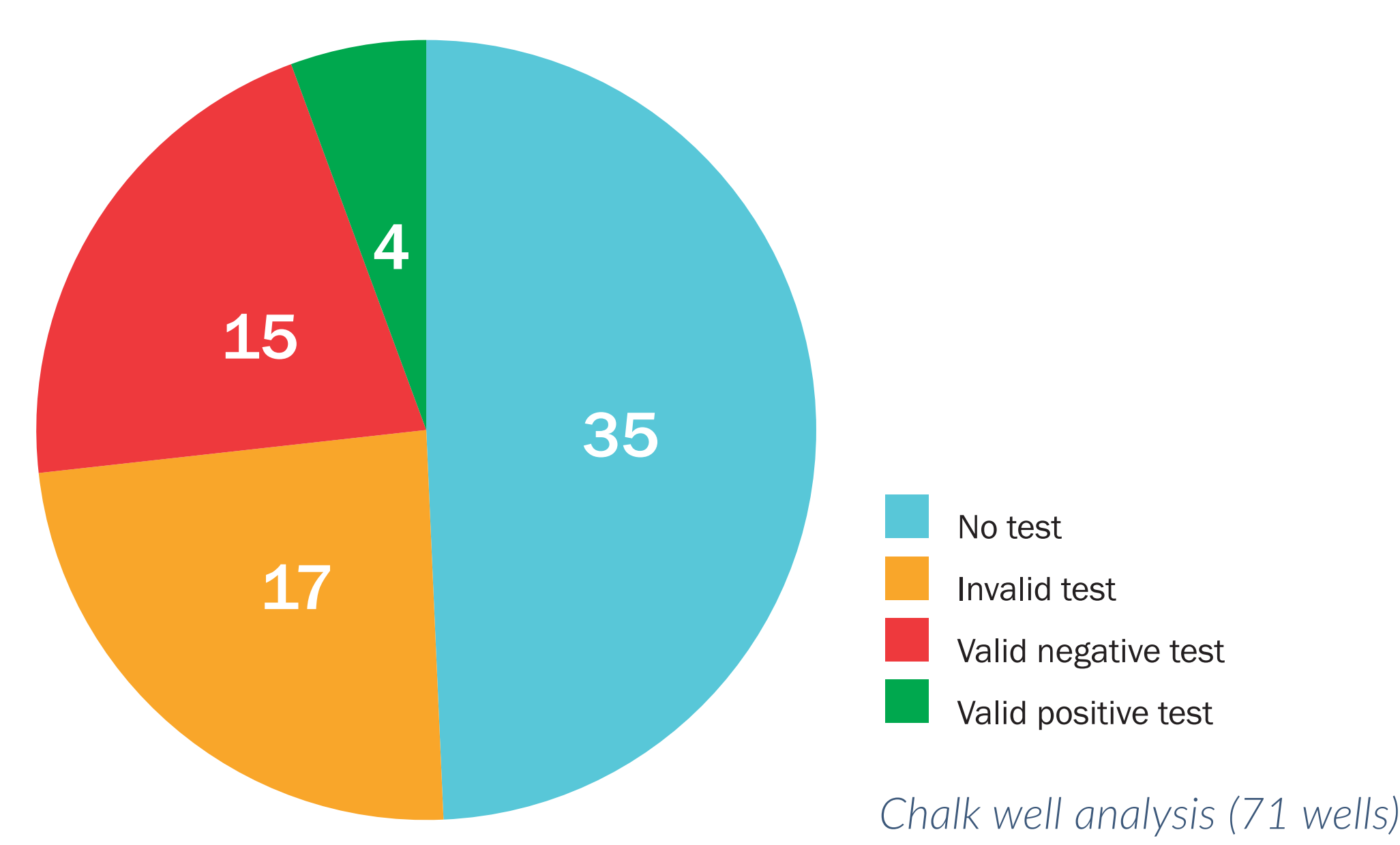


The Chalk play

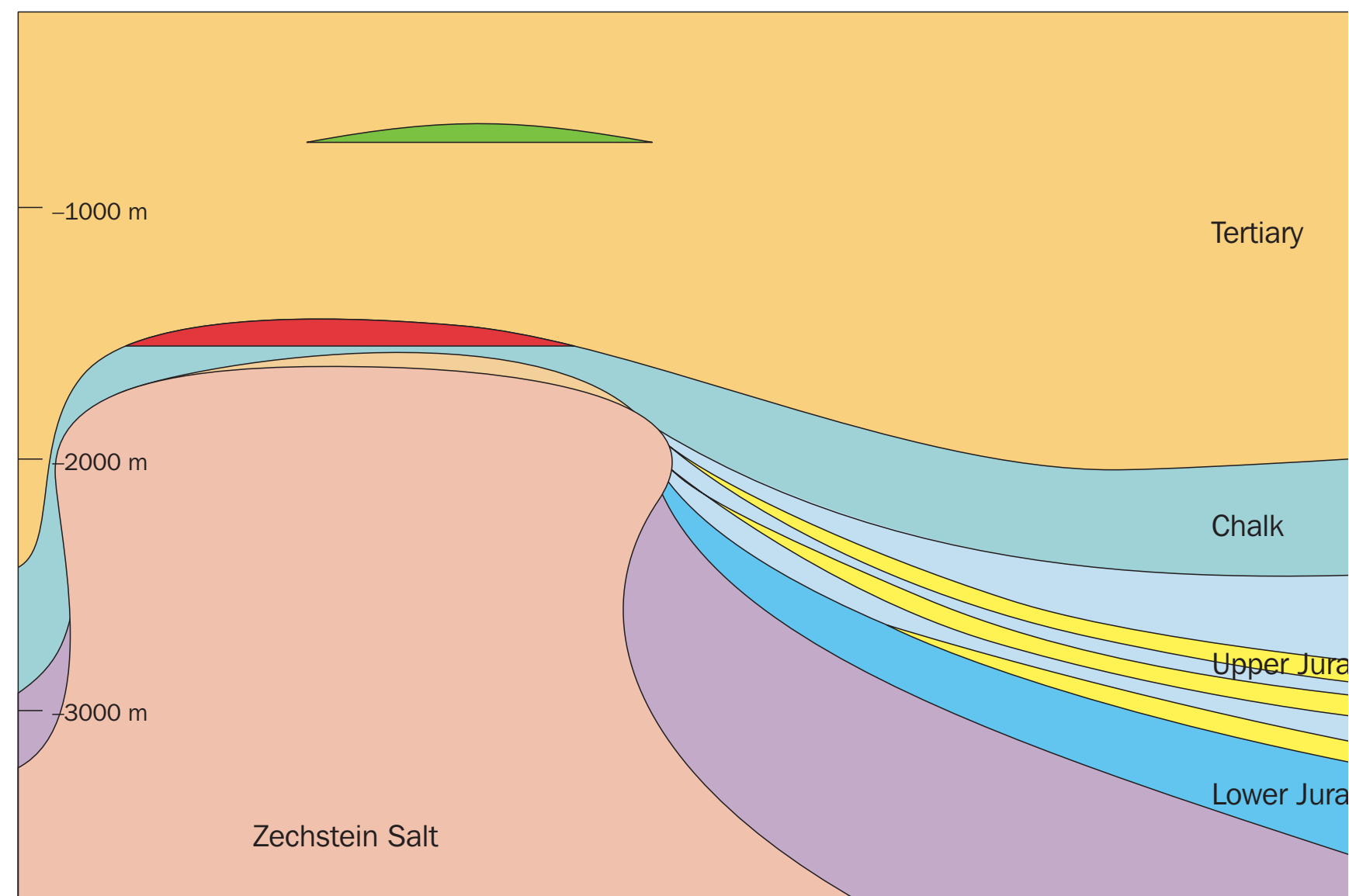
More pearls in the northern Dutch offshore?

A proven yet under-explored play

- Oil production since 2001 (F2-Hanze field), recent discovery (F17-10)
- Many diapir traps undrilled
- Potential for intra-Chalk structural or stratigraphic traps (Fife or Halfdan analogs)
- > 55 untested closures, > 30 in open acreage
- STOIIP from 10 – 300 MMbbls each

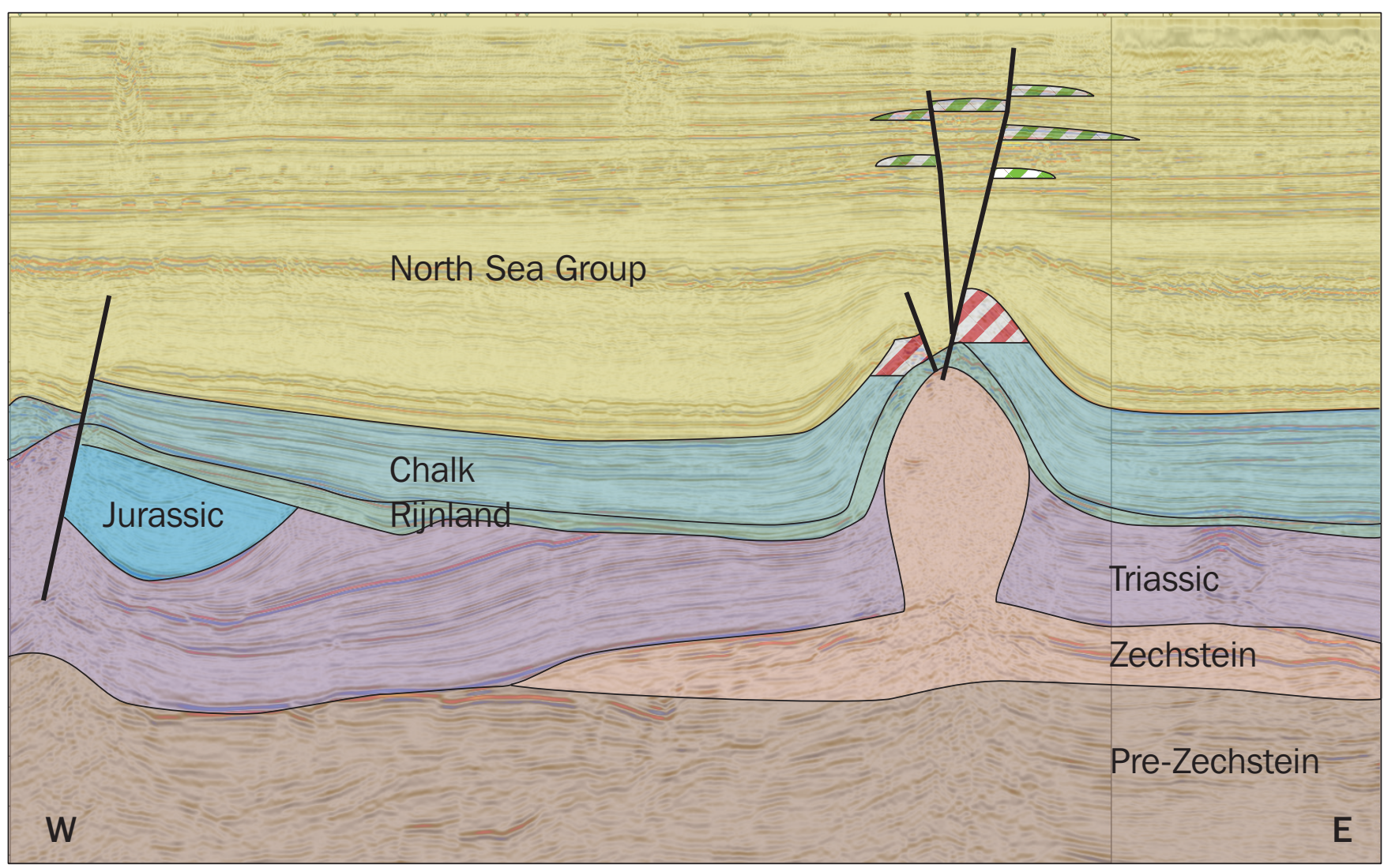


Proven trap types



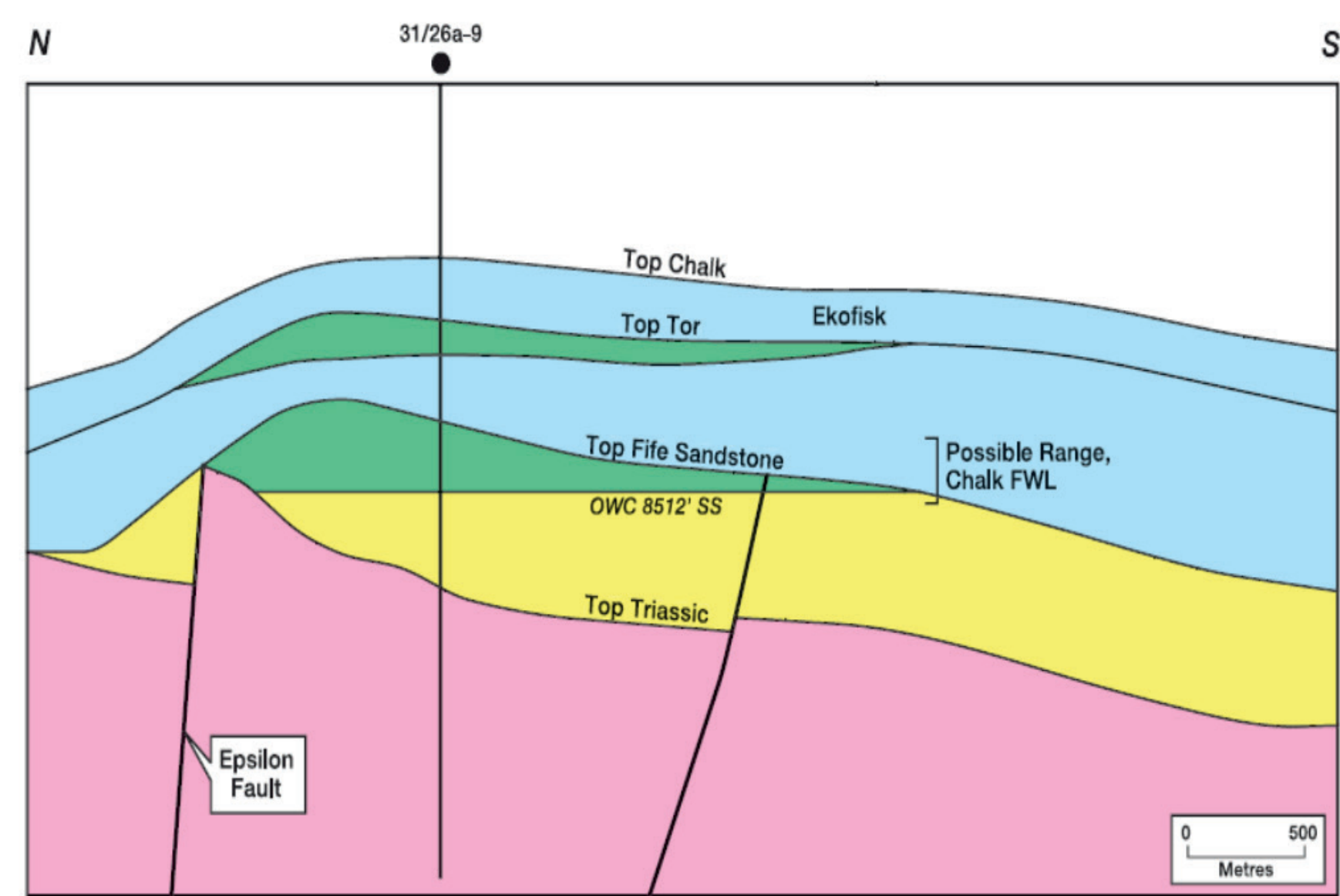
type I – salt diapir trap Hanze field (NL)

Fields	F2-A-Hanze, F17-10, many fields in UK / DK
Reservoir	Danian and Maastrichtian Chalk
Seal	Tertiary shales
Source	Jurassic Posidonia Shale



B16–Amethyst

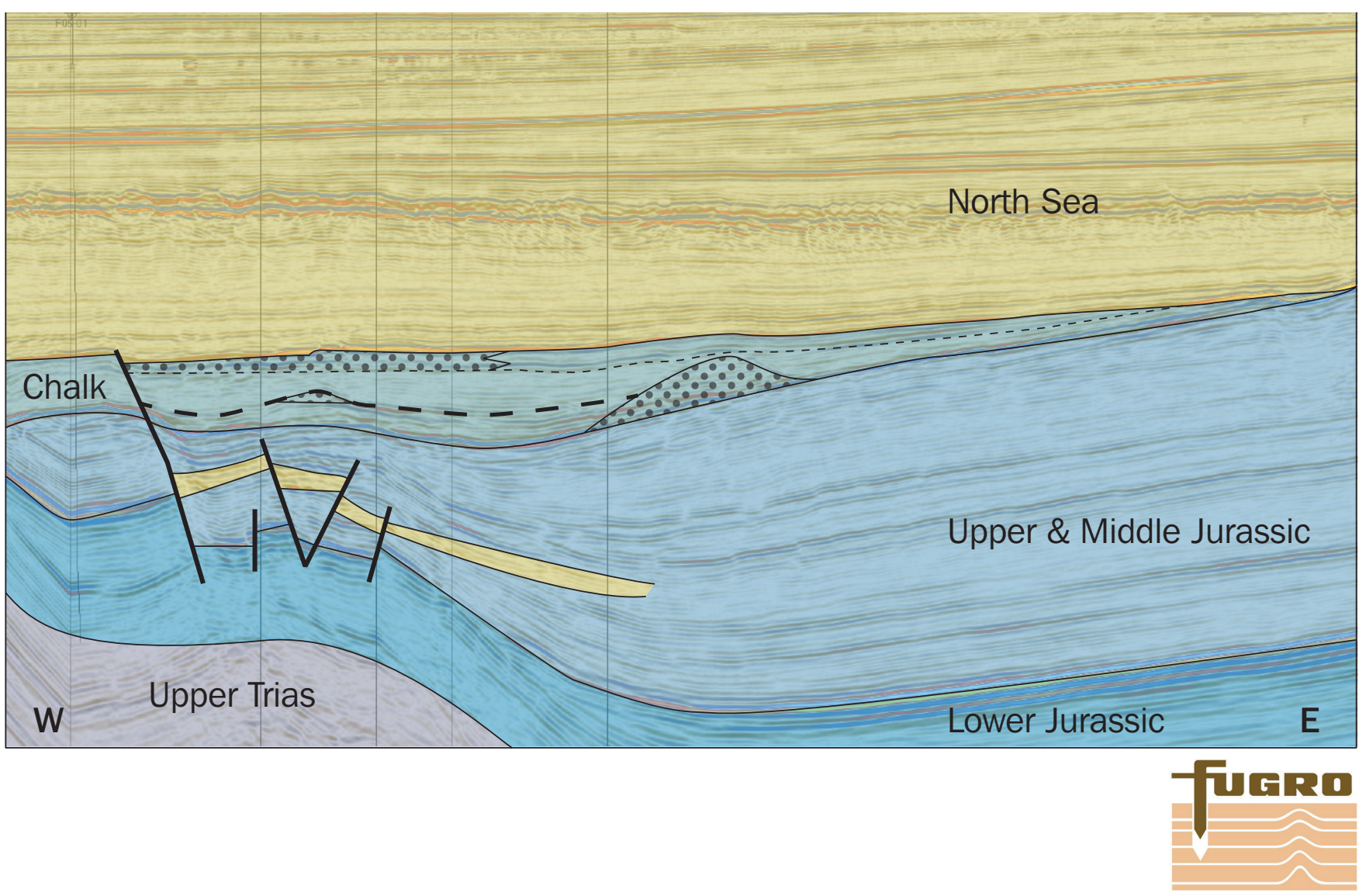
Trap	Large faulted / divided salt diapir closure with multiple targets, shallow gas above
Reservoir	Danian and/or Maastrichtian Chalk
Seal	Tertiary shales
Source	Jurassic Kimmeridge Clay, Westphalien, Namurian, Dinantian coals/shales



type II – structural trap Fife field (UK)

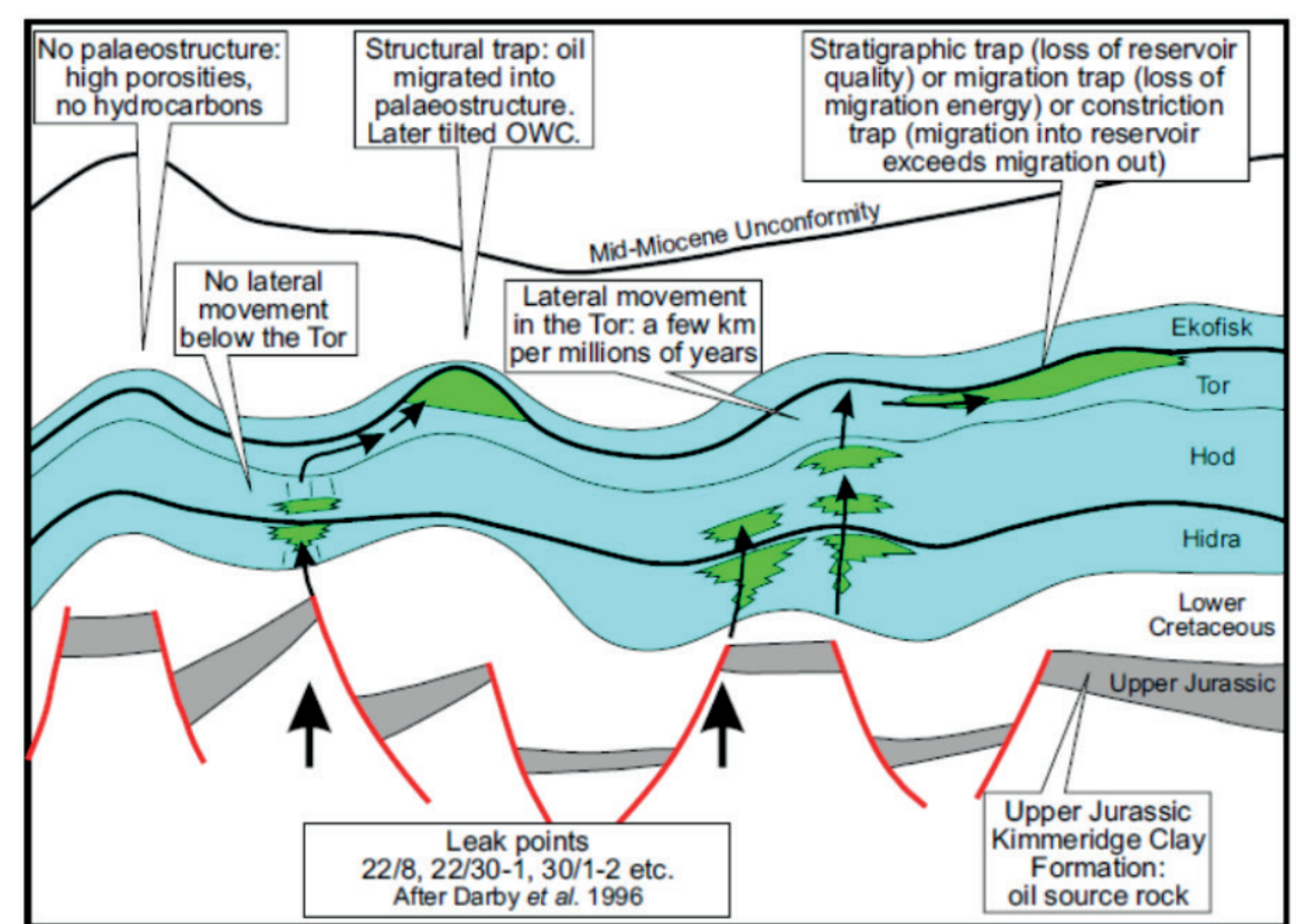
Fields	Fife, Flora (UK)
Reservoir	Maastrichtian Chalk
Seal	Danian Chalk, Tertiary shales
Source	Upper Jurassic source rock

figure from Megson and Hardman, 2001



F5-1 updip

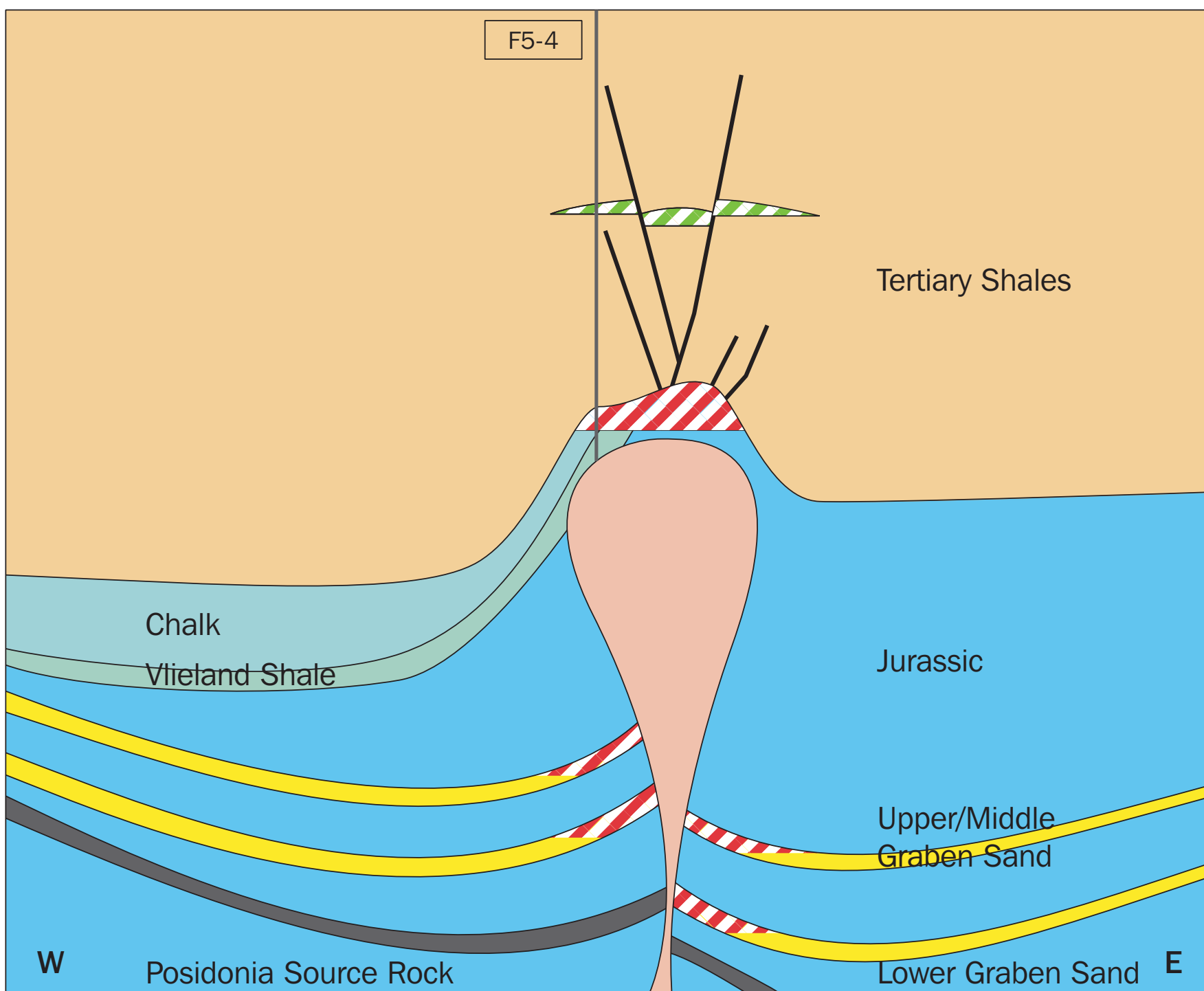
Trap	Structural trap with potential for internal strat trap in Chalk, multiple targets.
Reservoir	Danian and/or Maastrichtian Chalk
Seal	Tertiary shales
Source	Jurassic Posidonia Shale, Westphalien, Namurian, Dinantian coals/shales



type III – strat trap Halfdan field (DK)

Fields	Halfdan (DK)
Reservoir	Maastrichtian Chalk
Seal	Danian Chalk
Source	Upper Jurassic source rocks

figure from Megson and Hardman, 2001



F5–Kingfisher

Trap	Salt diapir closure with multiple targets, shallow gas above
Reservoir	Danian and/or Maastrichtian Chalk
Seal	Tertiary shales
Source	Jurassic Posidonia Shale, Westphalien, Namurian, Dinantian coals/shales