The Triassic Hydrocarbon Potential
Overlooked upside of the northern Dutch offshore

Reservoir

The present study focused on the Volpriehausen Member as the main reservoir. Improved, this member has an excellent porosity and seals to the north.

Recent studies show additional reservoir potential in the form of faulted sands deposited at local depocentres, and faulted sealing at faulted flanks of the northern Dutch offshore.

Hydrocarbon charge and migration

Two different migration pathway mechanisms are identified:

1. "Classical" vertical migration through fracture networks or along major faults

2. Hydrocarbon migration via Tertiary dykes, where:
   - Charge bypasses the thick Zechstein via volcanic dykes

Volumetrically, the second largest gas play.

Overpressures may restrict gas column height and potentially cause seal breach, and are a potential high quality seal.

Source and charge

Recent studies show additional reservoir potential in the form of:

• Charge from bituminous Yoredale Formation
• Charge from Namurian marine shales, present as a potential source rock in the southern region
• Migration from Westphalian coals, present as a potential source rock in the southern region

Arrest of (early burial) compaction and therefore better porosity — more GIIP.

Seal and overpressure

The Upper Triassic Rotliegend plays are present across a large part in the area of interest and are a potential high quality seal.

Overpressures may restrict gas column height and potentially cause seal breach, however, they are often unexpectedly due to:

• Absence of easily burlierable overburden such as Permian source rocks in the northern region
• Charge from Yoredale Formation

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