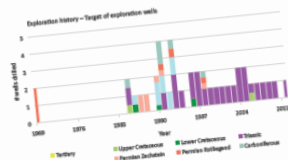
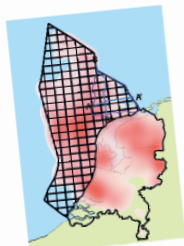


Prospectivity G and M blocks Analysing the Upper Jurassic play

G&M exploration study

- Goal: De-risk underexplored plays and identify new leads
- New insight and exploration opportunities will be provided to the industry
- Area selected on the presence of sizeable open acreage and underutilised infrastructure



Featured: The Upper Jurassic play

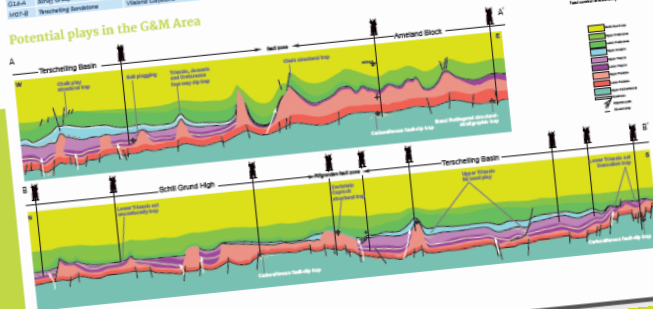
The Upper Jurassic play (and Lower Cretaceous) is proven in the G&M area by eight wells. Ongoing studies should aid to identify the prospective areas.

- Reservoir: Upper Jurassic sandy intervals are present throughout the study area (mainly Terschelling Basin) but reservoir quality can vary significantly laterally and is poorly understood.
- Seal: Top seal is widely present as Vlieland Shale or intra Jurassic/Lower Cretaceous shales. Stratigraphic trapping potential has not been evaluated yet.
- Source and charge: Carboniferous is the most likely source. Hydrocarbon shows are recorded in the area in several intervals of which eight shows were identified in the Jurassic. Charge is envisaged along deep faults where thickness of the Zechstein is limited.

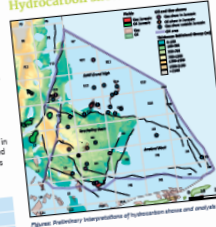
Upper Jurassic Plays in G&M

Play	Reservoir	Seal
P1-P2	Sandstone	Vlieland Claystone
Q1-Q2	Sandstone	Vlieland Claystone
Q3-Q4	Sandstone	Vlieland Claystone
Q5-Q6	Sandstone	Vlieland Claystone

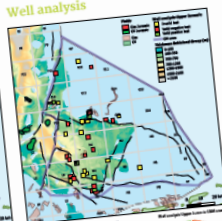
Potential plays in the G&M Area



Hydrocarbon shows



Well analysis



Figures: Preliminary interpretations of hydrocarbon shows and results of the Upper Jurassic/Lower Cretaceous units



Poster #8

Exploration Day

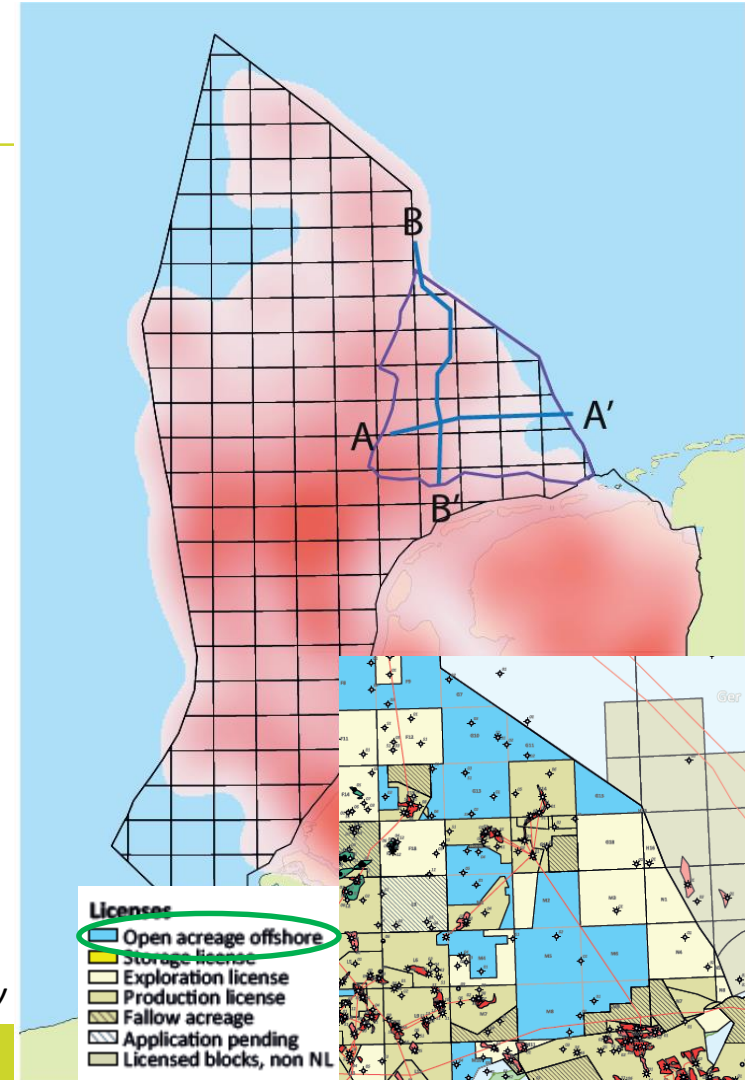
Annemiek Asschert

*Prospectivity in the
G&M area,
offshore
Netherlands*

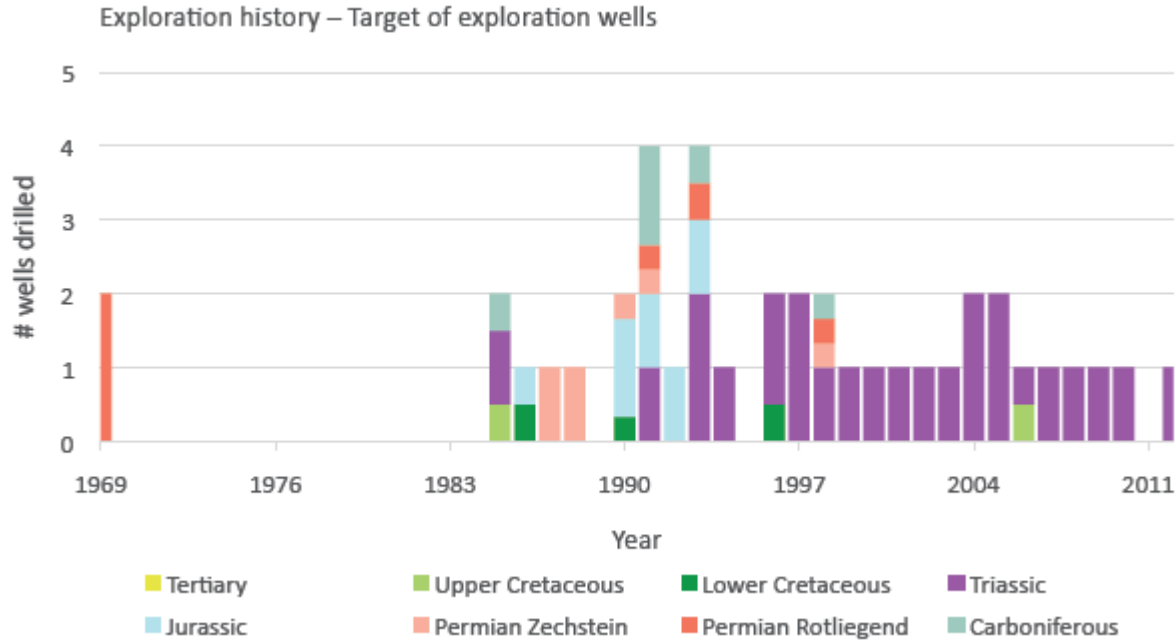
G&M Area

- Goal: De-risk underexplored plays and identify new leads on the Schill Grund High, Ameland Platform and Terschelling Basin.
- New insights and exploration opportunities will be provided to the industry
- Area selected on the presence of **sizeable open acreage** and underexploited infrastructure

Colour indicates exploration density

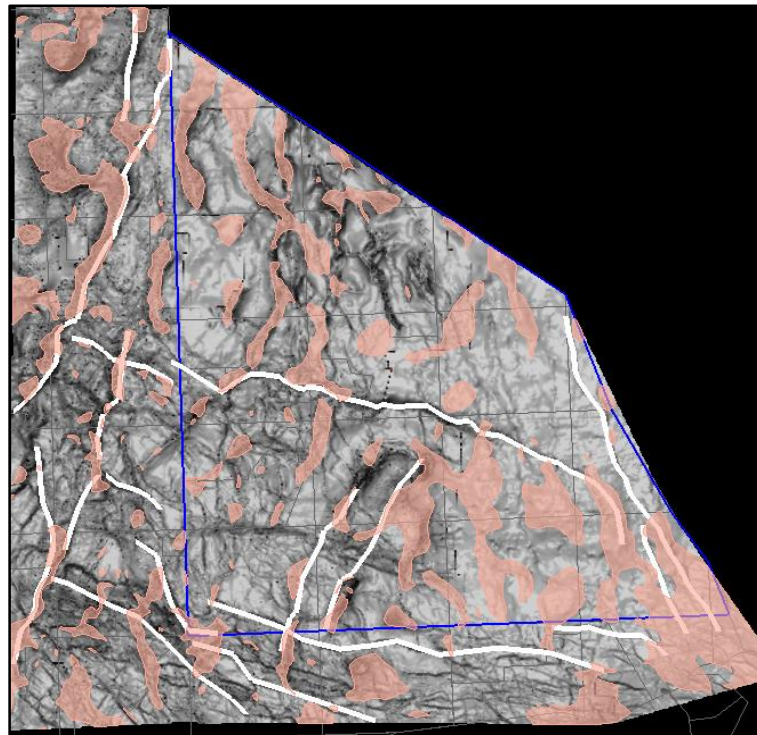
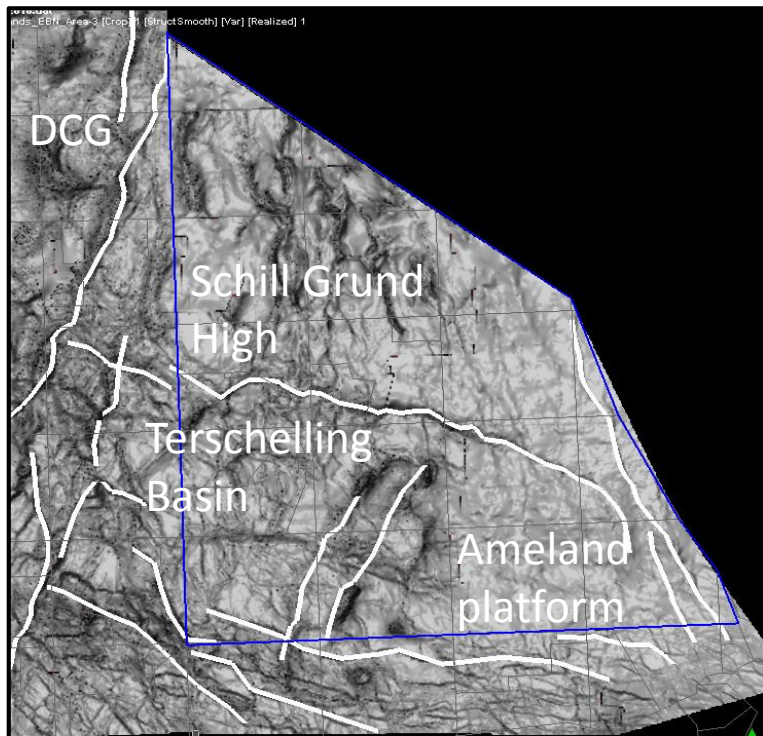


Exploration history of the area

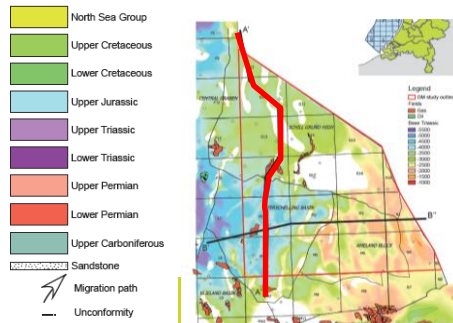
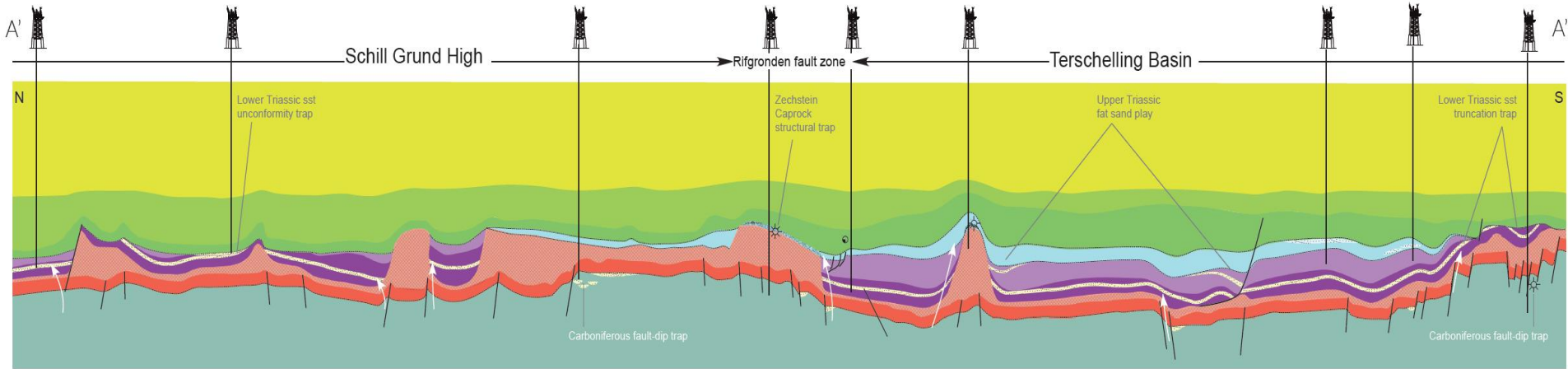


- Tertiary gas sands
- Upper Cretaceous Chalk in 4-way dip closures sealed by Tertiary shales or intra Chalk traps
- Upper Jurassic sandstones in 4-way dip or fault-dip closures sealed by intra-Jurassic/ Lower Cretaceous shales and stratigraphic traps
- Lower Triassic sandstones (4-way dip sealed by Upper Triassic shales/ salt, truncation traps sealed by Lower Cretaceous shale, fat sand play)
- Zechstein caprock on top of salt diapirs sealed by Jurassic or Cretaceous shales
- Basal Rotliegend sandstones sealed by Silverpit clay/Zechstein salt
- Westphalian sandstones in fault-dip traps

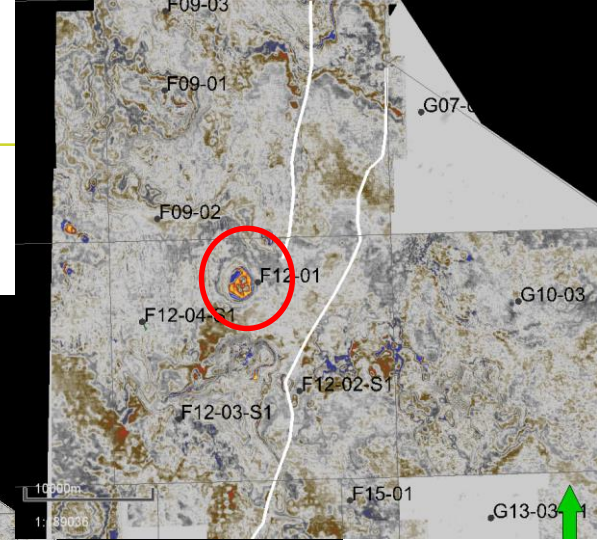
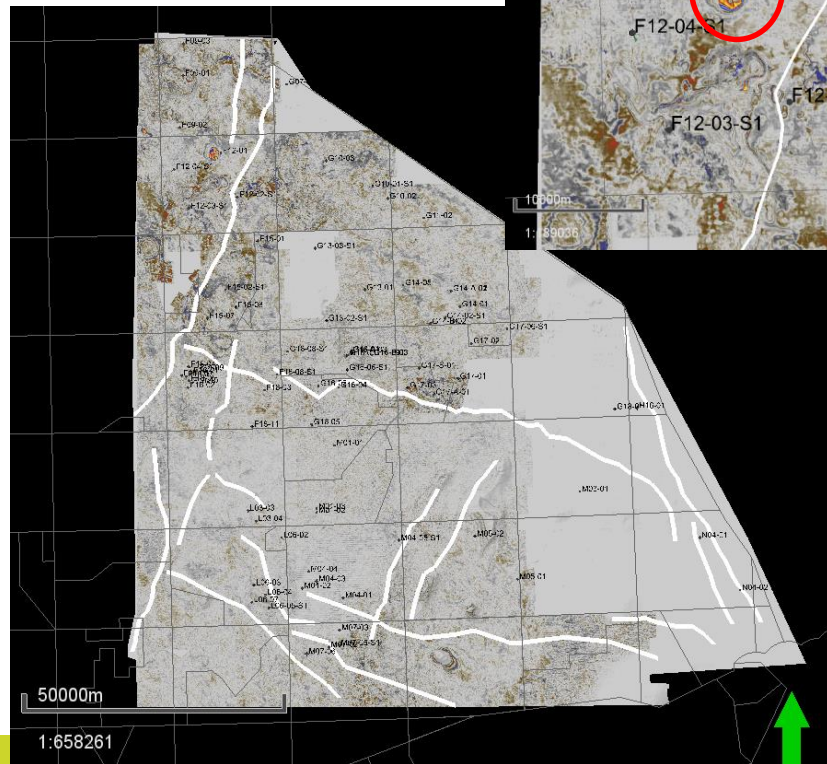
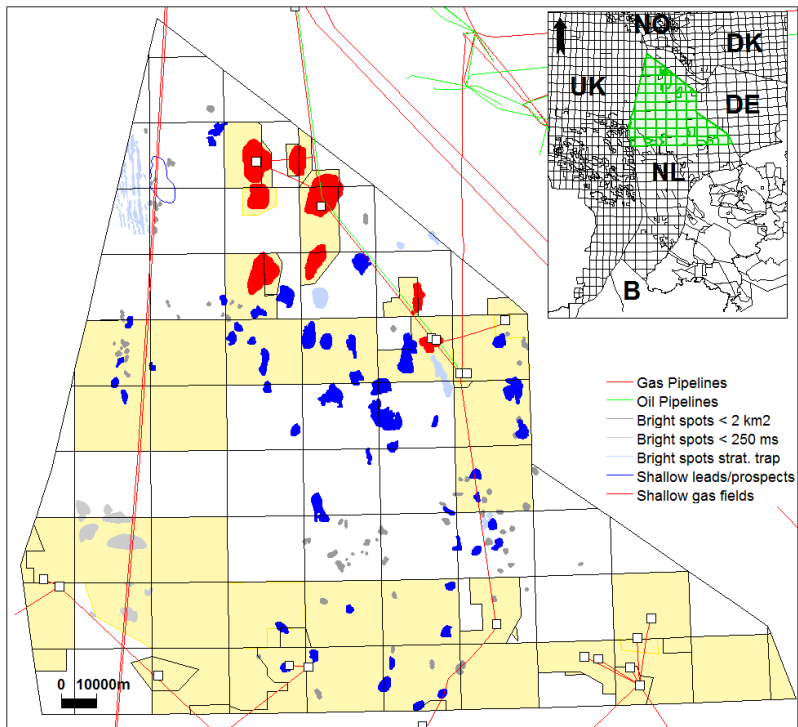
Structural setting – faults and salt walls



NS Geosection through SGH & TSB

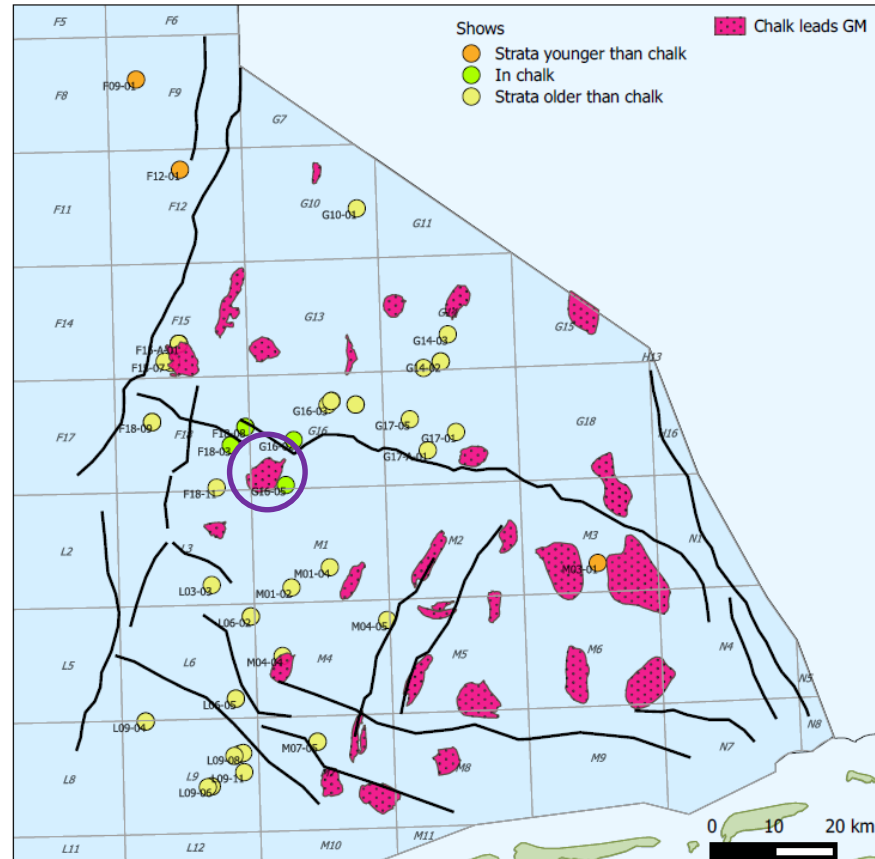


Amplitude anomalies in the Tertiary

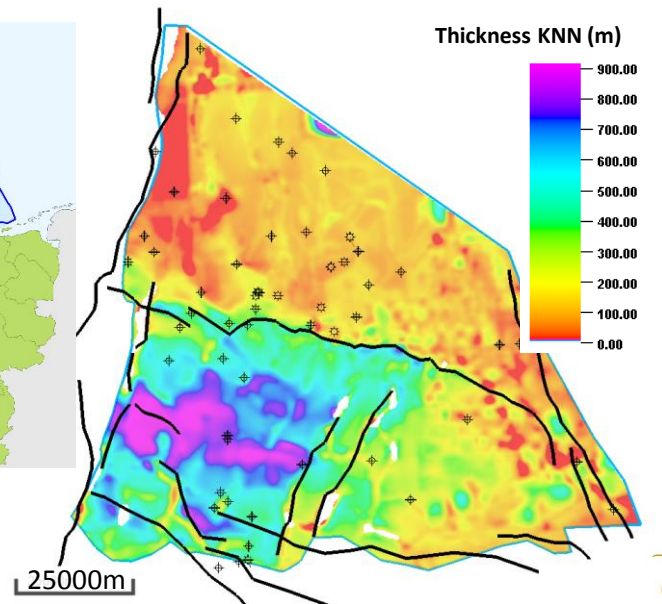
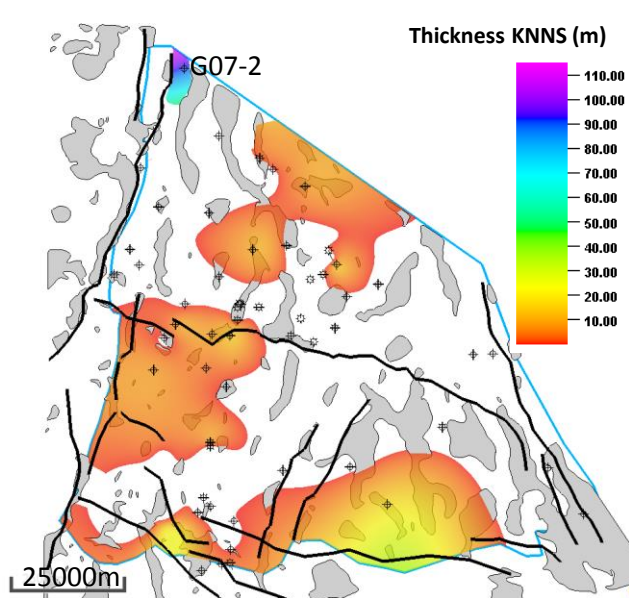


Chalk leads and hydrocarbon shows

Posidonia Oil
source present in
Central Graben



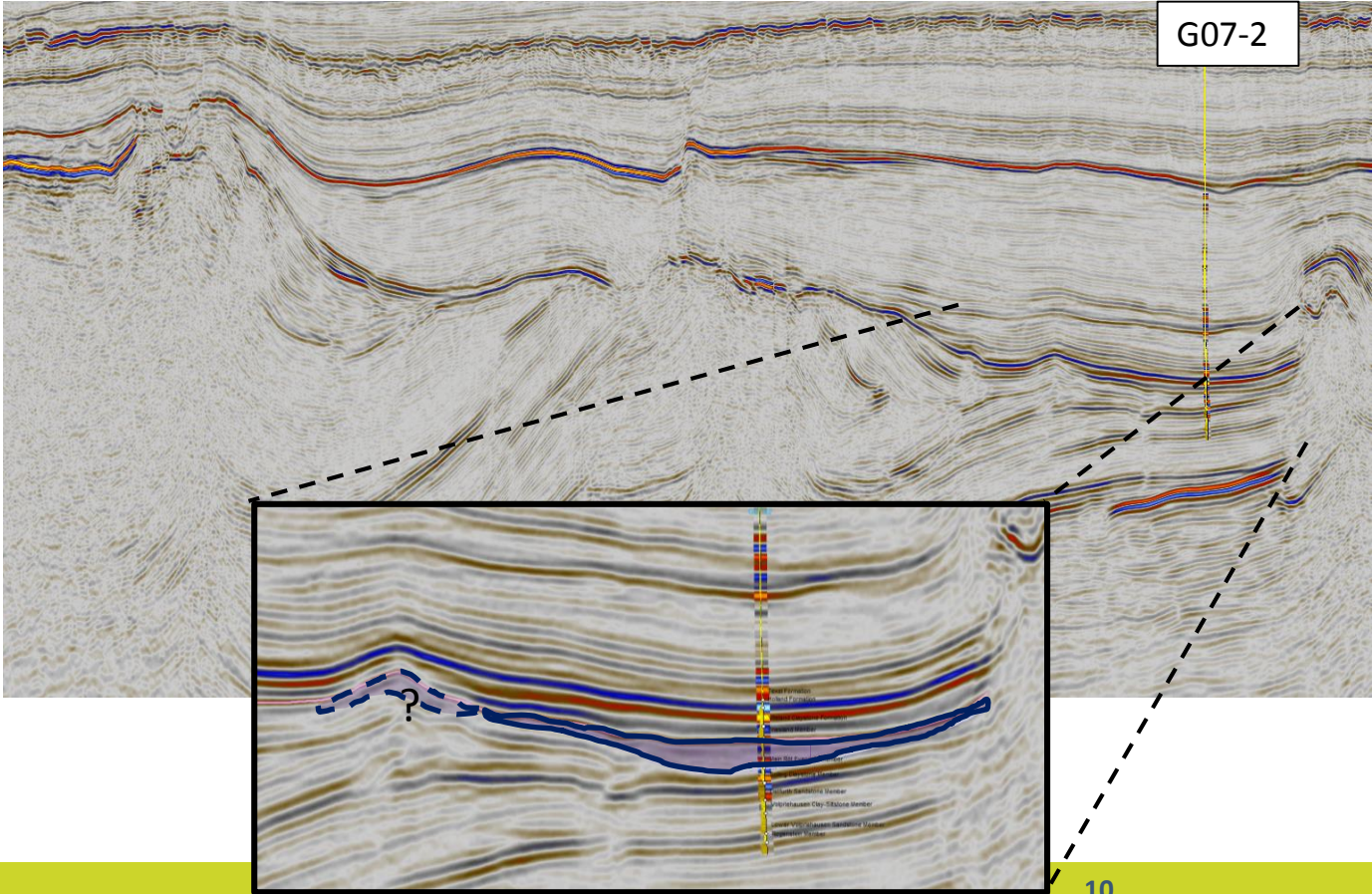
Lower Cretaceous Sandstones



Lower Cretaceous sst, based on wells,
Distribution is (probably) more restricted than indicated in
this figure

Thickness Vlieland
Subgroup

Basal Cretaceous Sandstone distribution, G07-2

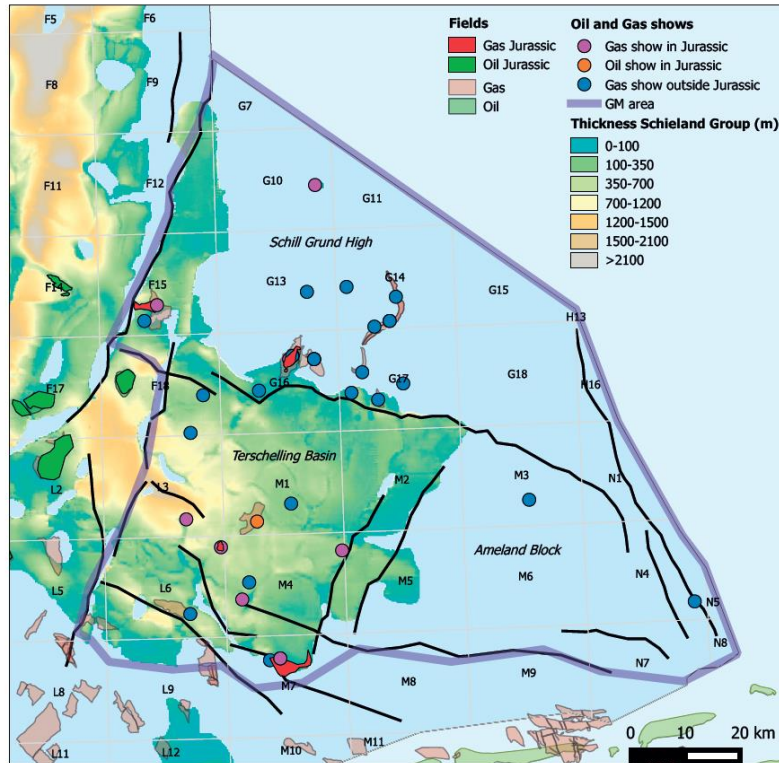


(Seismic section courtesy of Spectrum)

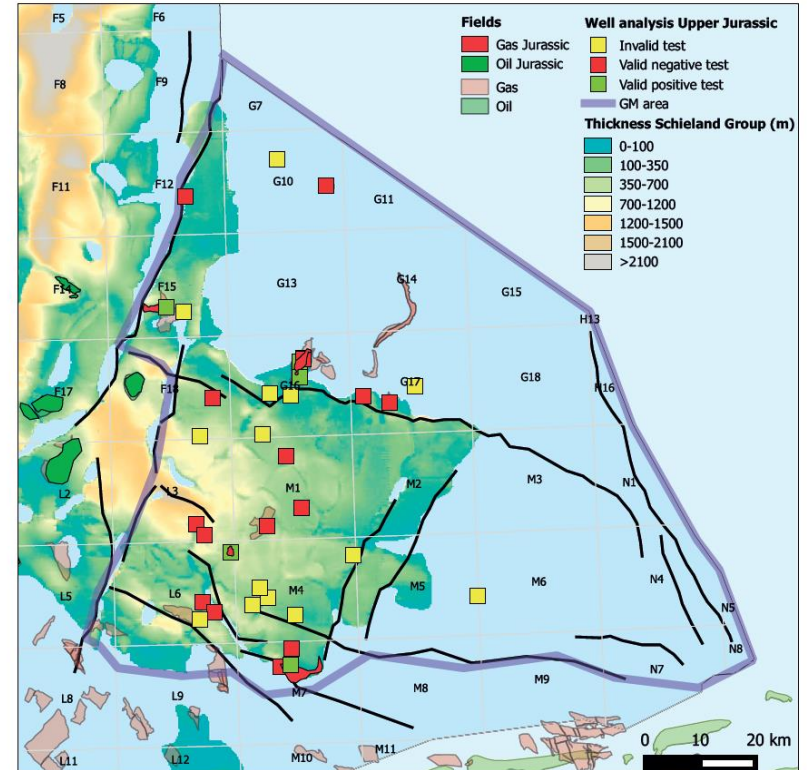


Jurassic Post Mortem Well analysis

Hydrocarbon shows



Well analysis



Next steps

- Prospect definition Upper Jurassic/Lower Cretaceous
- Explore the deeper plays

Poster # 8

