Ministry of Economic Affairs, Agriculture and Innovation

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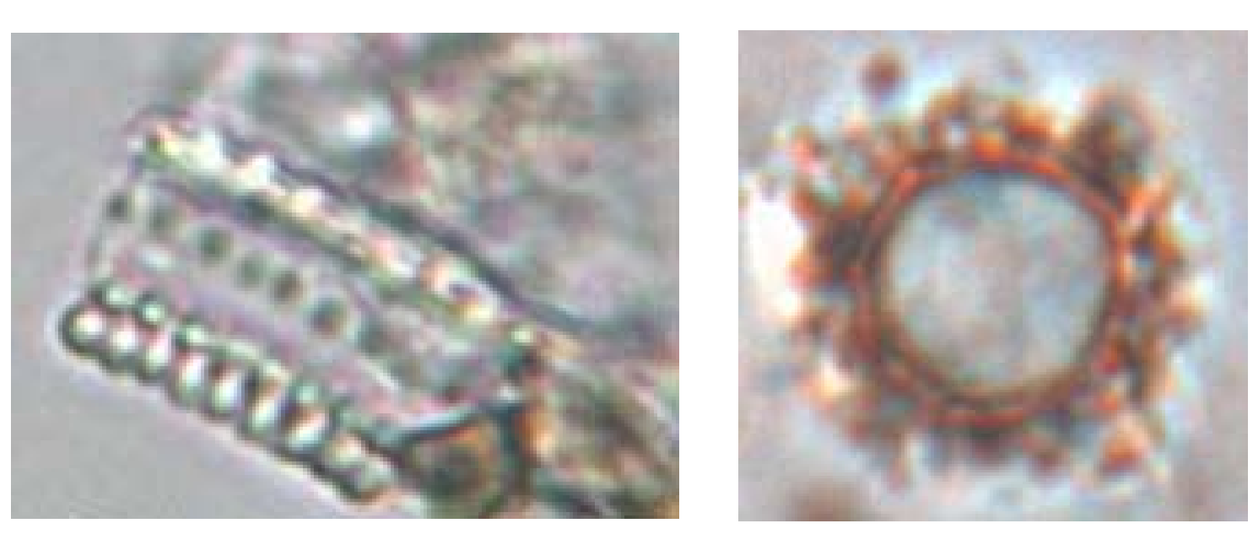
Joint Industry Projects

Your gateway to unique solutions

Correlation of Permian "barren" sandstones

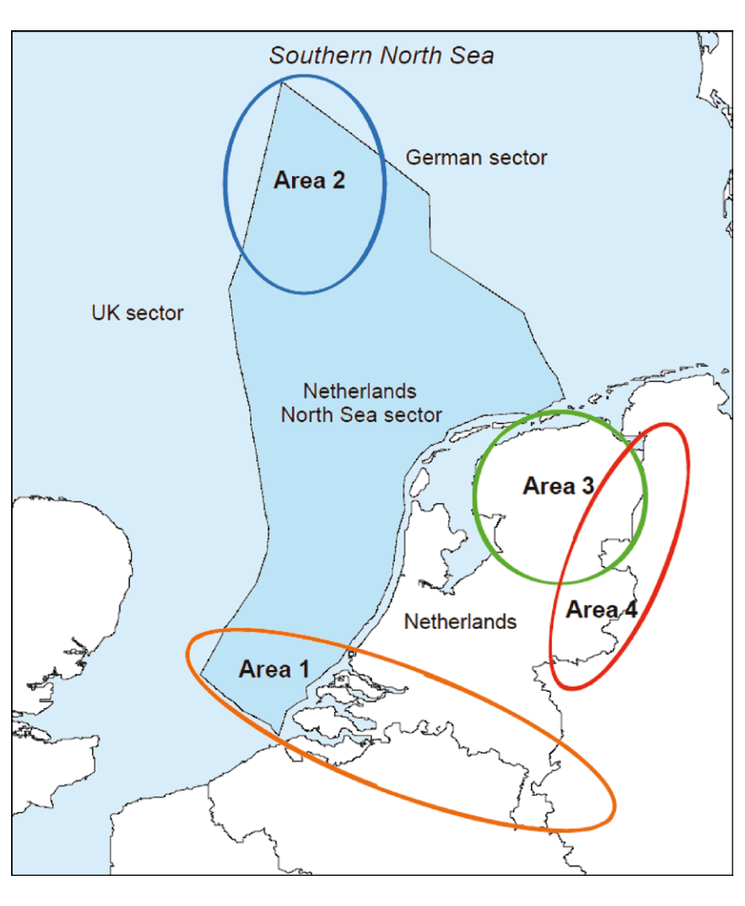
Globally significant oil and gas reserves occur in so-called "barren red-beds". A new biostratigraphic technique, based on biogenic silica particles, can help resolve stratigraphical issues and open new possibilities for improving and refining existing regional geological and reservoir development models.



(Photo above:) Depositional environment of (barren) sandstones. (Under:) Two examples of biogenic silica particals of different plants.

Pre-Westphalian prospectivity PETROPLAY

A Nation-wide inventory and overview of geological and geochemical data as well as an interpretation of those data in terms of hydrocarbon play potential.

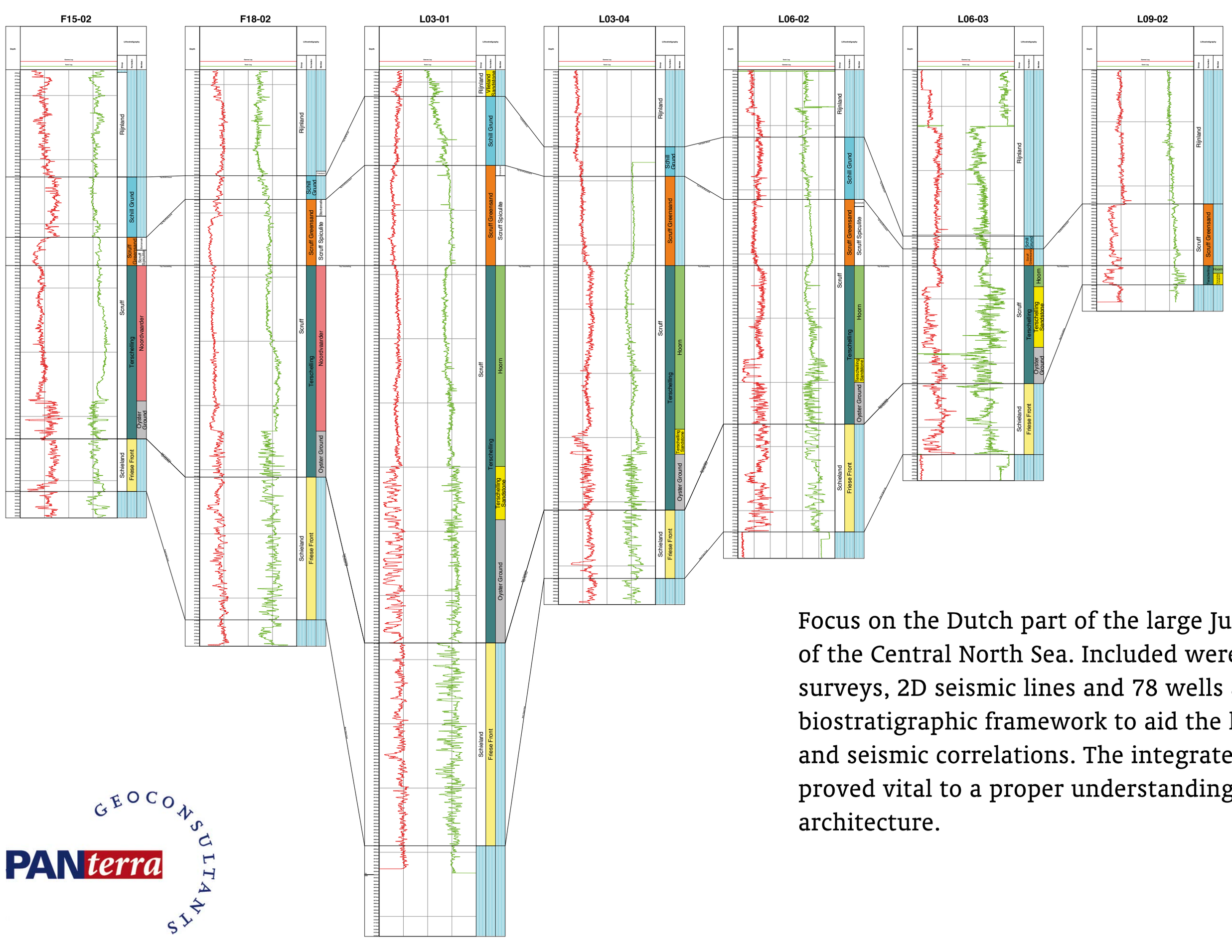


The four study areas defined at the start of the project.

Summary table of the evaluation of the potential source rocks (SR).

Age of units	Area	Type	TOC median [%]	TOC max [%]	Maturity [%Rr]	Initial SR potential	Present-day SR potential
Devonian	Area 1	III + (II)	0.5	2.9	1.5 - 3.0	fair	low
	Area 2	III + (II)	0.2	5.8	0.7 - 1.5	fair	fair to low
	Area 3 & 4	(II)	0.7	1.1	4.0 - 5.0	low to fair ?	low
Dinantian	Area 1	III + (II)	0.6	16.9	0.8 - 2.0	fair	fair to low
	Area 2	III + II	1.2	68.2	0.5 - 2.0	fair to good	fair
	Area 3 & 4	(II)	2.7	8.7	4.0 - 5.0	low to fair ?	low
Top Dinantian - Base Namurian	Area 1	II + III	2.5	12.1	1.0 - 1.2 (NW)	good to fair	fair
					3.0 - ? (SE)	excellent	low
	Area 2	III + (II)	3.2	6.0	0.5 - 2.0	good	good
	Area 3 & 4	II	3.5	6.2	4.0 - 5.0	excellent	low
Namurian	Area 1	III + II	1.1	4.5 (21.5)	0.5 - 1.5 (NW)	fair	fair
					2.3 - 5.0 (SE)	fair	low
	Area 2	III + (II)	2.2	72.1	0.5 - 2.6	fair	fair
	Area 3 & 4	III + II	1.3	77.1	1.5 - 4.5	good	low

Remaining prospectivity of the Dutch Central Graben



Focus on the Dutch part of the large Jurassic rift system of the Central North Sea. Included were 3D seismic surveys, 2D seismic lines and 78 wells and a detailed biostratigraphic framework to aid the lithostratigraphic and seismic correlations. The integrated approach proved vital to a proper understanding of the reservoir architecture.

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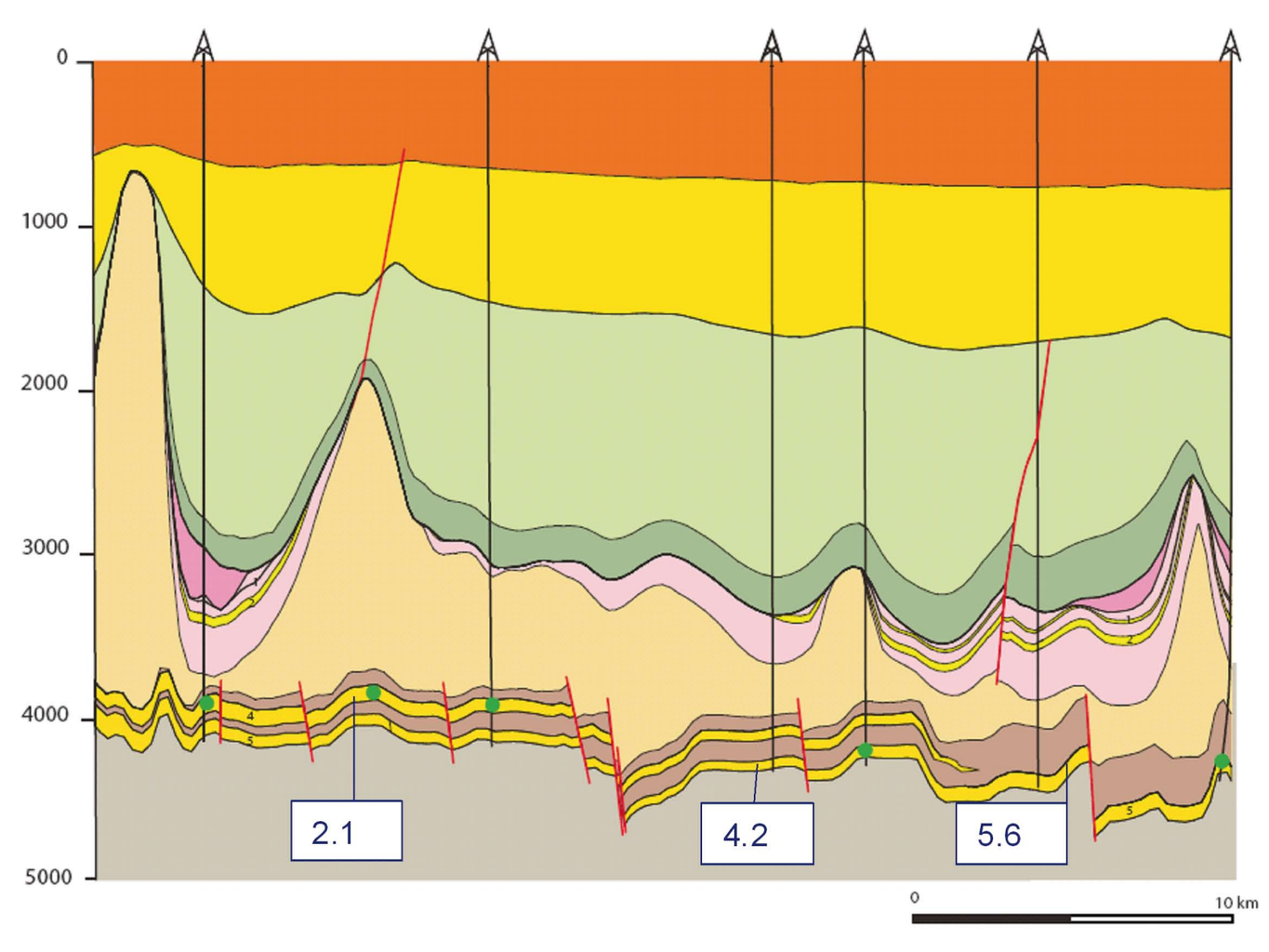
Pressure and fluid system data info and for conventional and new subsurface resources PSNS

Development QC-ed database for on and offshore Netherlands;
Pore pressures, mud weights, leak-off pressures, hydrochemistry, salinity, Rw, temperatures, overpressures

Data products: P-depth plots, leak-off pressure depth plots, Regional maps and cross-sections

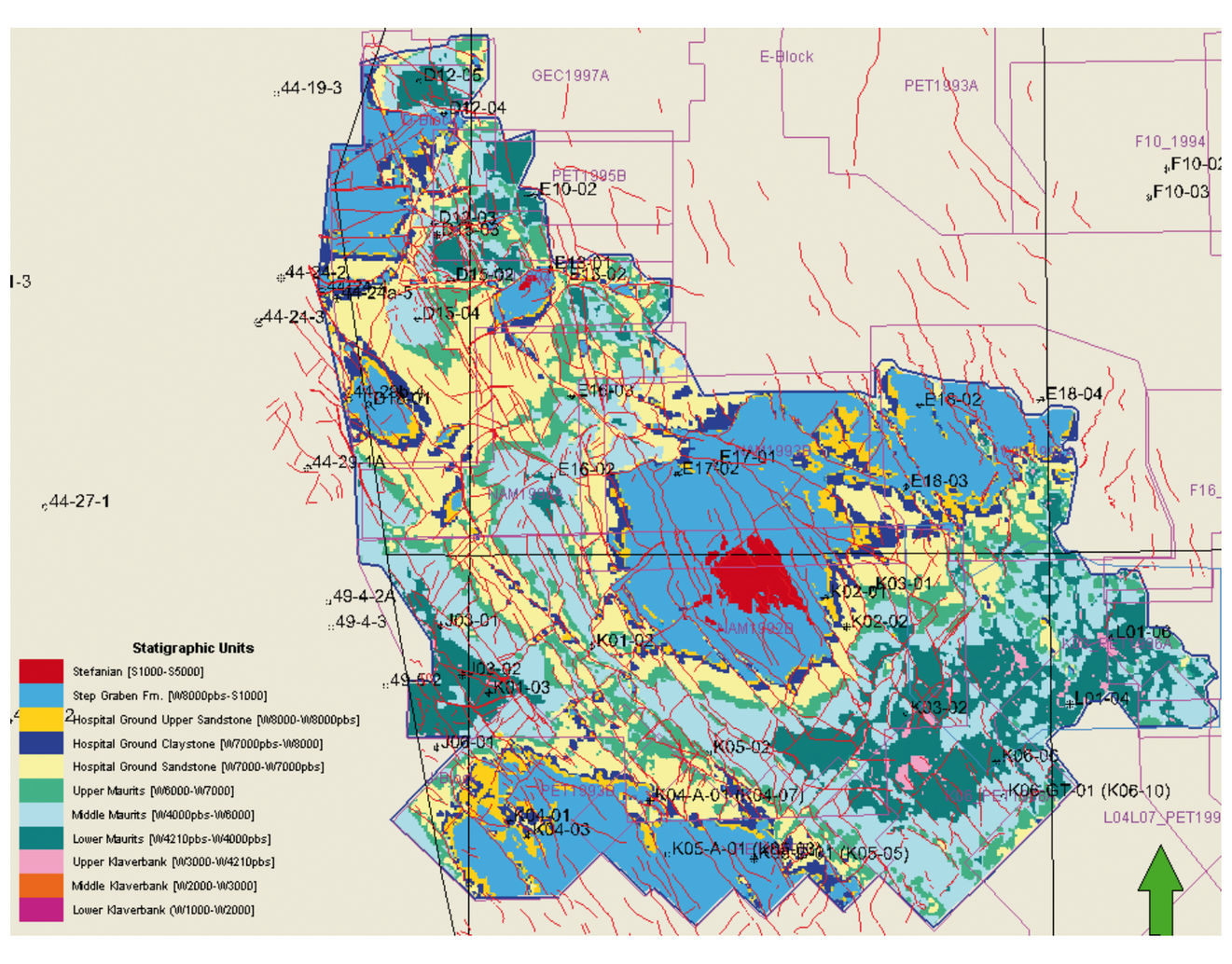
Process-based analysis and interpretation:
Pressure compartments;
Regional top seals; Migration/leakage paths



	DATA										ANALYSIS	
WELL NAME	Mudweight	WFT	DST/PT	FIT	Kick	LOP	RW/Cl salinity	Formation Water Chemistry	Lithology	Temperature (Non DST/RFT)	Overpressure	Salinity/Rw
A11-01	x	x	x			x	x	x	x	x	x	
A12-01												
A12-02	x	x				x			x	x	x	x
A12-03	x	x	x			x			x	x	x	
A14-01	x	x	x			x			x	x	x	
A15-01	x		x			x	x	x	x	x	x	x
A15-02	x	x				x			x	x	x	x
A16-01	x		x						x	x	x	
A18-02	x	x	x			x			x	x	x	
A18-02-S1	x	x	x				x	x	x	x		x

Framework for exploration in the Carboniferous of the Dutch off-shore

This framework for the Carboniferous fairway of the Dutch off-shore is based on public geological data, followed by seismic interpretation and a stratigraphic study based on well-logs, palynology and sedimentology, integrated in Petrel database.



Time Structure map with intra Carboniferous fault lines.

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Connectivity and Rock Typing prediction of Upper Carboniferous Reservoirs

The detailed integrated study of lithofacies and mineralogical and biostratigraphical composition of the Upper Carboniferous reservoirs will allow us to develop accurate conceptual models of internal architecture and propose a predictive tool to drive the 3D reservoir modelling, optimise production performance and locate potential undeveloped reserves.

Outcrop of Carboniferous fluvial sandstones and coals, Kentucky (USA) representative to the Upper Carboniferous Coal Measures of the North Sea.

For information on Exploration and Production issues and E&P data see the Netherlands Oil and Gas Portal www.nlog.nl & www.ebn.nl