



MIGRIS

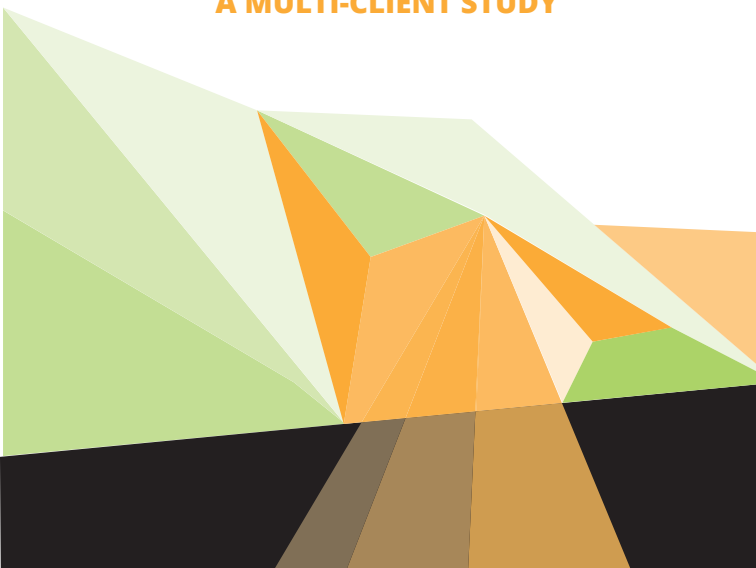
FINDING MORE WITH LESS



Barents Sea Charge

**Migris offers a hydrocarbon
maturation, generation, migration,
and leakage modelling study of the
southern Norwegian Barents Sea.**

A MULTI-CLIENT STUDY



The project includes:

- 1)** Geological model building and calibration data compilation
- 2)** Calibration of hydrocarbon maturities and creation of generation histories
- 3)** Calibration of migration scenarios that can explain fields and discoveries
- 4)** Uncertainty investigations with elaboration of alternative migration scenarios in different areas

DELIVERABLES

A report will be delivered in digital format (PDF/Microsoft Word/ PowerPoint documents and 3D animations).

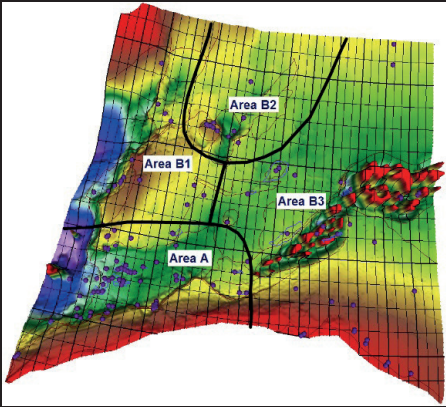
The final report highlights the methodology employed in each of the four work tasks. Important results are exported as grid files and included as project deliverables.

The database used in the project will not be included as a deliverable. All seismic data and interpretations can be licensed separately from PGS. The underlying complete Migri model (in depth domain) may also be purchased separately.

**PROJECT RESULTS ARE NOW
OFFERED FOR PURCHASE:**

MIGRIS.NO/STUDIES-AND-SERVICES

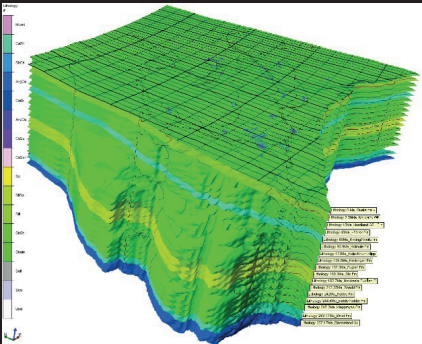
STUDY AREA



The study area consists of sub-areas A, B1, B2 and B3.

LAYER MODEL

Ages		Layer names	Lithologies
Faulted layers		0.Ma_Quaternary [1]	
		2.59Ma_Nordland GP [2]	
		10Ma_Nordland GP - Ero [3]	
		40Ma_~Torsk Fm [4]	
		65Ma_Kviting/Kveite fm [5]	
		93.9Ma_Kolmule Fm [6]	
		113Ma_Kolje-Knurr-Klipp [7]	
		139.8Ma_Hekkingen Fm [8]	
		157.3Ma_Fuglen Fm [9]	
		168.2Ma_Stø Fm [10]	
		182.7Ma_Nordmela-Tubåen-F [11]	
		212.35Ma_Snadd Fm [12]	
		242Ma_Kobbe Fm [13]	
		244.6Ma_middle Kobbe Fm [14]	
		247.2Ma_Klappmyss Fm [15]	
		253.17Ma_Ørret Fm [16]	
		257.17Ma_Bjarmeland Gp [17]	
			Source rocks

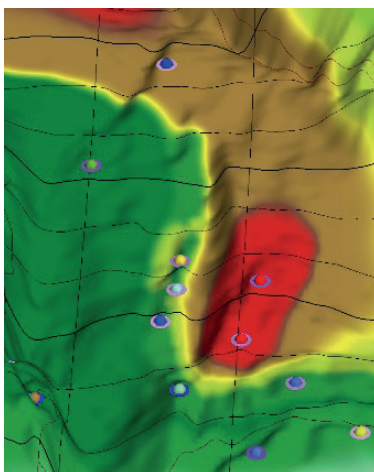
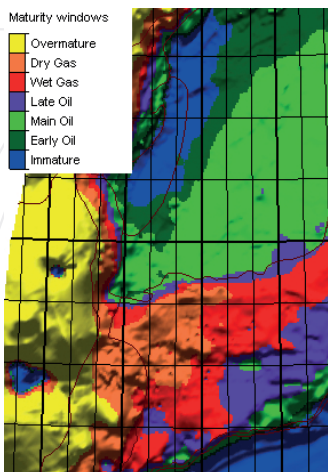


BARENTS SEA CHARGE STUDY

Migri is a “next generation 3D hydrocarbon migration simulator” which enables the evaluations of multiple alternative scenarios and sensitivities. Burial, maturation, generation, migration, and leakage are dynamically modelled through time in each scenario for a full 3D basin model with 15 stratigraphic layers.

In this study probabilistic approaches have been applied in the numeric description of the source rock models (Cretaceous, Jurassic, Triassic and Permian source rock units), in the thermal history, hydrocarbon generation, migration and leakage modelling.

A database of 90 wells has been used for the construction of the source rock model and maturity model calibration. A high-resolution OF-Mod source rock model for Hekkingen in the Hammerfest basin is included. All hydrocarbon migration models were calibrated to existing discoveries in the area, and best-fit “base case” models have been deduced.

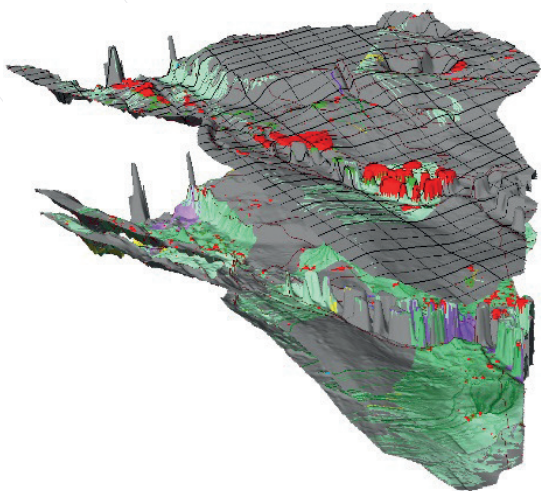


Modelled maturity windows (left), TOC and HI source rock properties (right) are important results from the project.

BARENTS SEA CHARGE STUDY

Model sensitivities and key uncertainties are investigated through a Monte Carlo simulation technique and alternative migration and filling scenarios are presented. All key results are available as digital maps and compiled report documents. The results from the sensitivity analysis and probabilistic basin modeling work is available at a lateral resolution of 800 m. Results from the “base case” migration model runs are available at 400 m lateral resolution.

The project results will be useful in assessing where to explore for prospective areas and elaborately contribute to the comprehension of the hydrocarbon charge systems in the region. Still, these results may be exploited further as input to your own dataset for detailed modelling of a licensed area or future prospect evaluation. Migris is the operator of this project and PGS has provided seismic interpretations as TWT maps.



Migration flowrates (green = oil, yellow/red = gas, violet = mixed phase) are important results from the project.

Multi-client studies

- \\ Digital maps and of hydrocarbon maturity, oil and gas generation histories and migration modelling results
- \\ Investigations of sensitivities and uncertainties (e.g. P10-P90 results) using stochastic methods
- \\ Useful in assessing where to explore for prospective areas and understanding the petroleum charge systems of the study area
- \\ Can be used as framework for our in-depth Single Client Studies using high resolution local maps

Single-client studies

- \\ Our geoscientists perform an in-depth, high resolution study of a licensed area, prospect, basin or play
- \\ Client normally provides additional data, such as maps, well data and faults
- \\ Describe exploration potential and risk using the clients exploration model, ideas and concepts

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