

# Regional PhaseFinder Package Barents Sea

## GEOS4'S EXCLUSIVE PHASEFINDER TECHNOLOGY

This science-based technology accurately predicts charge timing, fluid volume and composition rapidly and inexpensively, based on calibrations from major petroleum provinces worldwide using PhaseKinetics\*.

The Barents Sea is well known for its unusual basin evolution which has resulted in the discovery of abundant gas and little oil.

Recent discoveries have, however, proven a significant oil potential, both along the margins of the Hammerfest Basin as well as to the west of the Loppa High. Thus, new play models combined with a better understanding of the petroleum system are required to take advantage of this new opportunity.

## The GEOS4 Barents Sea package provides

- representatives of eight key immature source rocks,
- kinetic parameters for timing predictions using slow heating rates,
- Petroleum Type Organofacies for predicting bulk petroleum types,
- 2- and 4-component gas/oil ratio prediction in time and space,
- 14-component physical property/PVT prediction in time and space,
- kinetic data provided as tables as well as digital files for direct import into PetroMod® (SLB).

### Available upon request:

- PhaseKineticsPlus includes stable carbon isotopes on C<sub>1</sub>-C<sub>4</sub> components in addition to the above.

\* di Primio, R. and B. Horsfield, 2006, From petroleum type organofacies to hydrocarbon phase prediction: AAPG Bulletin, Vol. 90.



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Barents Sea

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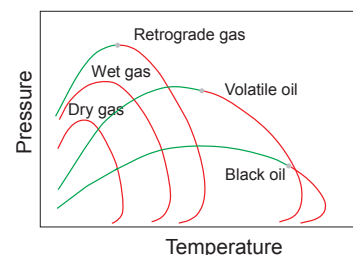
## UNIQUE SOURCE ROCK SAMPLE SUITE

Eight immature source rock samples are available.

Each represents a regionally significant petroleum source rock type.



The Norwegian Petroleum Directorate has defined a total of 7 plays covering Carboniferous to Tertiary intervals. Key source rocks are the Upper Devonian Domanik Formation equivalents, Carboniferous shales and coals, Triassic Botneheia equivalents, Upper Triassic black shales, Lower Jurassic shales, Upper Jurassic Hekkingen Formation as well as Cretaceous shales of Aptian-Albian and Barremian age.



Formation	Age	Origin	Depth (m)	OM Type
Fruholmen	Norian/Rhaetian	7124/3-1	1319	Type III
Nordmela	Sinemurian/Pliensbachian	7120/8-1	2253	Type II/III
Hekkingen	Oxfordian/Kimmeridgian	7125/1-1	1367	Type II
Kolmule	Aptian/Albian	7122/2-1	1771	Type II
Kolje	Barremian	7321/9-1	980	Type II
Obrutschew Bjerg	Famenian	E. Greenland	outcrop	Type I/II
Traill Ø	Bashkirian	E. Greenland	outcrop	Type II/III
Botneheia	Anisian/Ladinian	Svalbard	outcrop	Type II

GEOS4's Barent Sea PhaseFinder package allows the combination of source specific compositional predictions of petroleum with petroleum system modelling. The correct reproduction of petroleum phase behaviour represents a major step forward in modelling fluid generation, migration and accumulation in this complex setting.

