

Regional PhaseFinder Package Danish Central Graben

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*.

Large quantities of oil and gas still remain to be discovered in the Danish areas, and exploration in Denmark shows great potential in new play types.

This PhaseFinder Package assists in predicting the relative volumes of gaseous and liquid phases, infer migration pathways and predict daughter compositions ahead of drilling. PhaseKinetics parameters for the Farsund formation (incl. Bo Member) of the Danish sector and Mandal formation of the nearby Norwegian sector are provided.

The GEOS4 Danish Central Graben 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) and Temis® (Beicip-Franlab).



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

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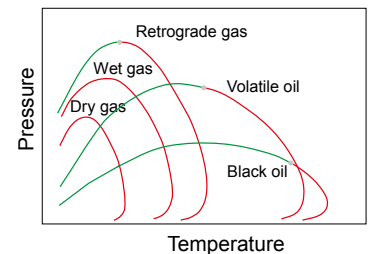
DENMARK

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UNIQUE SOURCE ROCK SAMPLE SUITE

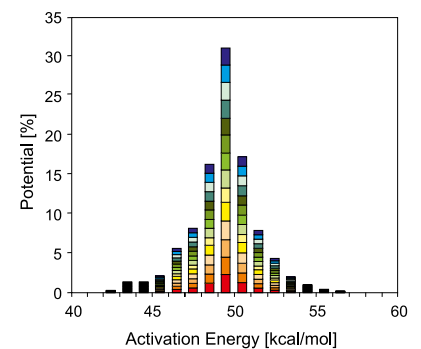
Our carefully selected source rock suite comprises rocks from the Danish and Norwegian Central Graben, where major petroleum reserves have already been discovered.

Upper Jurassic – lowermost Cretaceous marine mudstones represent the most significant source of hydrocarbons in the Central and Northern North Sea. Of particular importance in the Danish sector of the Central Graben is the Bo Member, a “hot shale” in the upper levels of the Farsund formation. To cover geographic and facies variability in that area, one immature sample from the nearby Norwegian sector (Mandal Formation) is included in this data report.



Full PhaseKinetics parameters:

Well	Formation	Age	Depth (m)	Tmax (°C)	HI
E-1	Farsund (Bo Member)	Ryazanian	2983	429	526
Jeppe-1	Farsund (Bo Member)	Ryazanian	4417	441	401
Skjold Flank-1	Farsund	Volgian	3076	432	468
2/6-3	Mandal	Ryazanian	3412	432	423



First and second level screening data from Rock-Eval and pyrolysis gas chromatography are supplied:

Well	Formation	Age	Depth (m)	Tmax (°C)	HI
Iris-1	Farsund	Volgian	4281	443	179
North-Jens-1	Farsund	Volgian	2971	432	336
S.E. Igor-1	Farsund	Volgian	2490	431	286
Lulu-1	Farsund	Kimmeridgian	3248	439	245

GEOS4’s Danish Central Graben 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.

