

# Regional PhaseFinder Packages:

## West Greenland

Offshore Greenland is largely unexplored. The occurrence of source rocks is known exclusively from field work performed mainly by GEUS in eastern Greenland. Onshore these span the timeframe from Devonian to Cretaceous and lacustrine to marine depositional environments.

### critical elements

of basin evolution include the presence, maturity, distribution and characteristics of individual source rock intervals.

### petroleum plays

in Greenland are largely undefined. Western Greenland basins suffer in addition from the lack of direct source rock evidence. Extrapolation from outcrop samples taken in the east is the only solution. The source rocks studied here were provided by GEUS, Denmark's national geological survey.

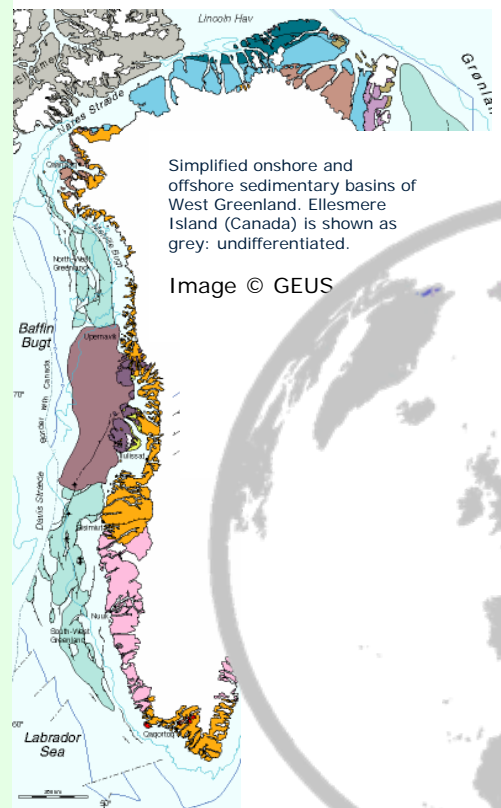
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di Primio, R. and B. Horsfield, 2006, From petroleum type organofacies to hydrocarbon phase prediction: AAPG Bulletin, v. 90.

GeoS4's Greenland **PhaseFinder package** allows the combination of source specific compositional predictions of petroleum, following the *PhaseKinetic approach* (di Primio and Horsfield, 2006), 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.



Simplified onshore and offshore sedimentary basins of West Greenland. Ellesmere Island (Canada) is shown as grey: undifferentiated.

Image © GEUS

Three source rock samples have been selected:

Formation	Age	OM Type
Nuussuaq	Paleocene	II/III
Kanguk Formation	Cenomanian/Campagnian	II
Hassel Formation	Albian	III



The GeoS4 West Greenland package provides:

- Representatives of three 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 GOR 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 (IES)



Ask about PhaseKinetics Plus for carbon isotopic compositions of gases