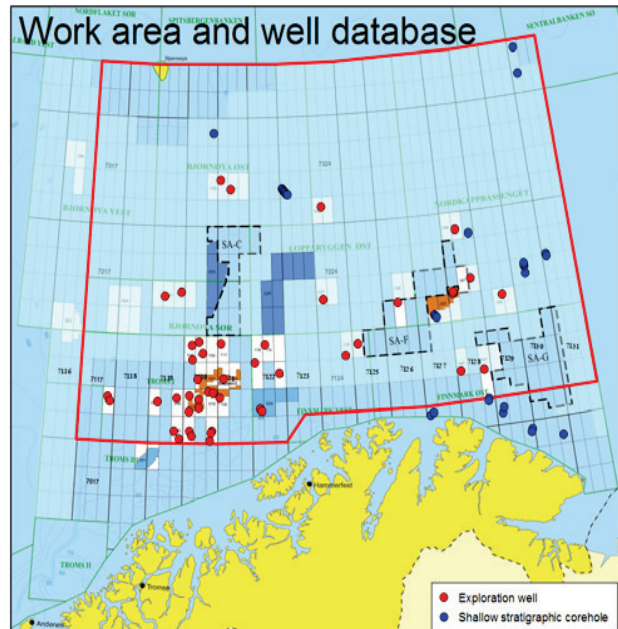


# Integrated Barents Sea Study - Geological History and Petroleum System Evolution

This integrated and co-operative study was finished in September 2005 and includes some of the most comprehensive geochemical, thermal and pressure databases currently available for this region.

These data, combined with source-rock-, thermal and petroleum migration modelling, describe the various petroleum systems and identify key risk factors for petroleum exploration in this large and geologically complex area.

Particular attention was directed towards identifying and mapping the timing and extent of geological events (e.g. repeated uplift and erosion phases) that influenced petroleum generation, expulsion and leakage.



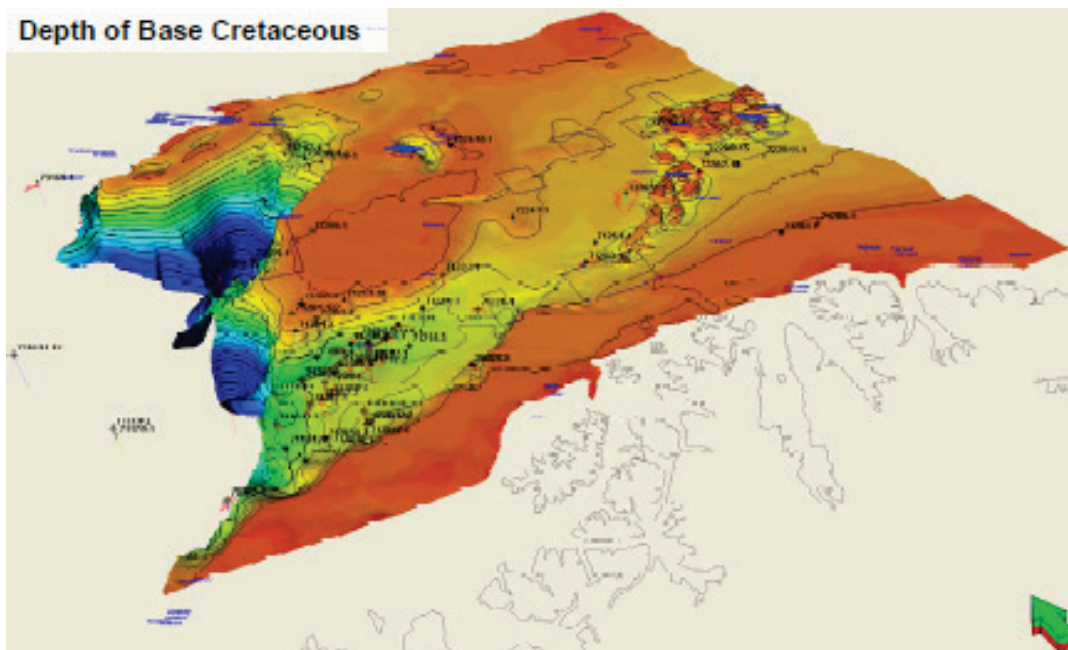
The study also provides a consistent regional framework which can act as an ideal basis for future evaluations at a prospect scale.

The results are summarised in the following deliverables:

- **Maps of timing of generation, expulsion and migration of oil and gas from source rocks at critical periods during basin evolution**

The underlying information includes:

- **Depth and time maps** covering the whole Norwegian sector of the Barents Sea from sea floor to Base Upper Permian
- **Palaeowater depth** for Base Triassic, Base and Top Anisian, Base Upper Jurassic, Base Cretaceous and Base Quaternary
- **Timing and quantitative maps of erosion and uplift** events
- **Temperature and pressure database**
- **Geochemical database**, which includes about 24 000 TOC and Rock-Eval data records, 2300 vitrinite reflectance data records, 2890 EOM etc., including results from **400 new samples** which have been analysed specifically for this study
- Identification and **geochemical characterisation** of potential source-rock horizons in wells
- **Source-rock property maps** (thickness, TOC and HI) for potential source rocks of Upper Jurassic, Triassic and Permian age, based on **organic facies modelling**
- Detailed **geochemical correlation** between oils, gases and shows and potential source-rock units of different ages identified in the Norwegian and Russian sectors of the Barents Sea
- Assessment of **seal integrity** based on headspace gas analyses



## Database

### Maps and seismic:

NPD seismic and PGS structural maps.

### Geochemistry and well data:

#### Norwegian sector:

- Exploration wells:

7019/1-1	7120/1-2	7120/9-1	7121/4-2	7124/3-1	7228/7-1 B
7117/9-1	7120/2-1	7120/9-2	7121/5-1	7125/1-1	7228/7-1 S &
7117/9-2	7120/2-2	7120/10-1	7121/5-2	7128/4-1	S T3
7119/7-1	7120/5-1	7120/10-2	7121/5-3	7128/6-1	7228/9-1 S
7119/9-1	7120/6-1	7120/12-1	7121/7-1	7216/11-1 S	7229/11-1
7119/12-1	7120/7-1	7120/12-2	7121/7-2	7219/8-1 S	7316/5-1
7119/12-2	7120/7-2	7120/12-3	7122/2-1	7219/9-1	7321/7-1
7119/12-3	7120/7-3	7120/12-4	7122/4-1	7224/7-1	7321/8-1
7120/1-1	7120/8-1	7121/1-1	7122/6-1	7226/11-1	7321/9-1
7120/1-1 R	7120/8-2	7121/1-1 R	7122/7-1	7228/2-1 S	7324/10-1
7120/1-1 R2	7120/8-3	7121/4-1	7122/7-2	7228/7-1 A	

- IKU/SINTEF shallow stratigraphic core data from the Nordkapp Basin, Svalis Dome, Bjarmeland Platform and Finnmark East areas:

7029/3-U-1	7129/10-U-1	7230/5-U-3	7317/2-U-2	7323/7-U-4	7430/10-U-1
7029/3-U-2	7129/10-U-2	7230/5-U-4	7320/3-U-1	7323/7-U-5	7430/7-U-1
7030/3-U-1	7220/2-U-1	7230/5-U-5	7323/10-U-1	7323/7-U-6	7524/12-U-1
7126/6-U-1	7227/8-U-1	7230/5-U-6	7323/12-U-1	7323/7-U-7	
7127/10-U-2	7227/8-U-2	7230/5-U-9	7323/7-U-1	7323/7-U-8	
7127/10-U-3	7227/8-U-3	7231/1-U-1	7323/7-U-10	7323/7-U-9	
7128/12-U-1	7228/3-U-1	7231/4-U-1	7323/7-U-2	7324/7-U-1	
7128/9-U-1	7230/5-U-2	7317/2-U-1	7323/7-U-3	7425/9-U-1	

**Russian sector:** Shtokman-4, Ludlov-2, Arktiche-1, Fersman-1, North Kildin-82/80.

The relevant data used in the project are available in digital form, and the two-volume report is delivered in PDF format and as a paper copy.

### Contact person

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