

Organic Geochemistry

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The Department of Geochemistry of the Geological Survey of Denmark and Greenland (GEUS) comprises a fully equipped laboratory dedicated to organic geochemistry and petrography.

Over more than fifteen years, extensive experience within organic geochemical analysis of source rocks, oils, coals and recent sediments has been gained, and a large data- and sample-base has been collected.

A key staff of four scientists and three technicians ensures that expertise within all relevant fields is available.

The laboratory offers services within organic geochemical screening analysis as well as advanced analyses. Screening analyses available include Total Carbon (TC) Total Organic Carbon (TOC), Total Sulphur (TS), elemental analysis (C,H,N) and Rock-Eval pyrolysis using the new Rock-Eval 6 instrument. Other bulk analysis techniques available include kinetic studies (using the Rock-Eval 5 instrument and the IFP Optkin® software), Pyrolysis-Gas Chromatography (PGC) and hydrous pyrolysis. Further analyses include solvent extraction using a Soxtec® apparatus and group type fractionation by Medium Performance Liquid Chromatography (MPLC), Gas Chromatographic analysis (GC) of both saturated and aromatic compounds, and biological marker analysis by coupled Gas Chromatography - Mass Spectrometry (GC-MS). Furthermore, for identification of unknown compounds, isolation of individual biological markers by means of High Performance

Liquid Chromatography (HPLC) is routinely carried out.

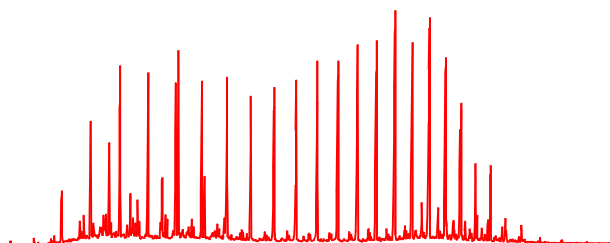
The laboratory conducts pure research projects, offers its services on fully commercial terms, or participates in cooperative projects.

Recent research includes studies in the North Sea, Greenland, the Baltic Countries, the Faeroe Islands, areas west of Shetland, and Vietnam.

Over the last five years terrigenous source rocks have been a key research area, and a number of research papers have been published. Of particular note are studies in central West Greenland and in the Søgne Basin, North Sea.

In central West Greenland, widespread oil seepage and staining have allowed the identification of several different types of oil and their sources, and offered an opportunity to develop extensive experience within terrigenous source rocks containing angiosperm biological markers.

In the Søgne basin, oil-prone Middle Jurassic coals have been shown to have sourced commercial accumulations of liquid petroleum and gas.



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The Geological Survey of Denmark
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and advisory institution in the Ministry
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