

Organic Petrography

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The Laboratory for Organic Geochemistry and Petrography (Department of Reservoir Geology) hosts a high standard optical unit dedicated to petrographic studies of organic matter in sedimentary rocks and coals. The laboratory has been awarded full accreditation (certificate nos. ICCP/FA/33.1/0043AB & ICCP/FA/33.2/0044AB) in vitrinite random reflectance analysis and maceral analysis by the International Committee for Coal and Organic Petrology (ICCP).

The staff of the Laboratory for Organic Geochemistry and Petrography includes four scientists and three technicians, ensuring a broad coverage of most relevant disciplines.

The laboratory is equipped with three incident light microscopes with facilities for determination of the rank/maturity and petrographic composition of coals and kerogens by means of vitrinite reflectance measurements, quantitative fluorescence microscopy, combined white/blue light maceral analysis, and total reflectance measurements using optical image analysis. Furthermore, the laboratory is equipped with a FTIR spectrometer, which includes facilities for micro-FTIR analysis.

For more than fifteen years, the laboratory has been dedicated to research activities, teaching, training of scientific personnel, and commercial services to the industry.

Over the years, the laboratory has gained extensive expertise within organic facies analysis of organic-rich deposits, source rocks and coals related to the interpretation of the original deposi-

tional environment and to the evaluation of source rock potential. Determination of thermal maturity of coals and dispersed organic matter is routinely carried out.

Recent research includes studies of terrestrial source rocks and oil-prone coals and investigations into the causes and consequences of suppression of vitrinite reflectance. A multidisciplinary approach incorporating organic geochemistry, sedimentology, sequence stratigraphy and multivariate statistics is commonly used to obtain the best interpretations.

In addition, the laboratory has been working with characterisation of coals used for combustion in power plants, and has gained outstanding expertise in combustion char characterisation.

The analysis of coals imported from all over the world for combustion, and extensive studies on-shore Denmark, the North Sea, and Greenland, together with work in Vietnam, the Faeroe Islands, and the Baltic Sea has given the laboratory considerable experience in various topics related to characterisation of organic matter.

