

Geochemistry Labs

The Geochemical Laboratories (GEBA) perform experimental activities aimed to the definition of the geochemical model, an important input for the Petroleum System Modeling. A significant part of the studies is devoted to the support to the production and development activities through the description of the fluids distribution and heterogeneity in the reservoir.

The geochemical labs can be subdivided in three macro-areas:

Source Rock Evaluation

The experimental set-up of this lab allows the evaluation of the generative potential of the sedimentary sequences and their thermal maturity. One of the experimental activity is also devoted to the definition of the kinetic parameters of the hydrocarbon generation during the burial of the basin.

Molecular Geochemistry

It includes a set of analytical and interpretative tools allowing the characterisation of hydrocarbon and water samples at a molecular level. The main target of these studies is the definition of the active source rocks of the area under evaluation, the support to the definition of the static model of the reservoir (fluid continuity) and the support to some of the production problems (production allocation).

Isotopic Geochemistry

Beside a further investigation of the hydrocarbon and water samples through the analysis of the carbon, oxygen and hydrogen stable isotopes, this lab performs a geochemical analysis of the gas sampled during the various tests but also contained in the drilling cuttings (head space).

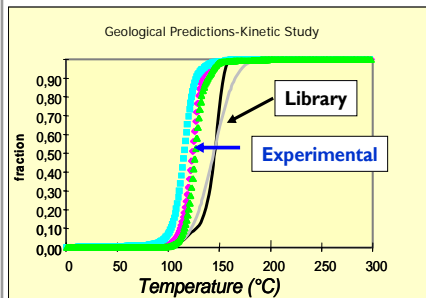
The GEBA labs are also in charge of the oil archive (olioteca) with more than 4000 oil sampled from wells all over the world beginning from the '60s. The samples are preserved in proper containers and in a refrigerated room to guarantee the protection of the enormous potential of information that can be extracted through the use of new methodologies as they are developed.



Geochemistry Labs

SOURCE ROCK EVALUATION

- Geochemical logs
- Source rock properties and maturity
- Kerogene optical analysis
- Reservoir geochemistry
- Bitumen detection
- Kinetic of HC generation



MOLECULAR GEOCHEMISTRY

- Biomarker analysis
- Light HC analysis
- Migration indices
- Proximity indices
- Reservoir continuity
- Production allocation



ISOTOPIC GEOCHEMISTRY

- $\delta^{13}\text{C}$ of oils and extracts
- Chemical and isotopic characterisation of gas samples
- Head space analysis
- Carbonate characterisation
- Water characterisation



"OLIOTECA"

- Storage of more than 4000 worldwide oil samples in refrigerated rooms



eni

exploration & production