

Christian Ostertag-Henning¹, Andreas Risse, Katja Heeschen, Stephan Kaufhold & Reiner Dohrmann

Federal Institute for Geosciences and Natural Resources,

Stilleweg 2, D-30655 Hannover, Germany

¹ Christian.Ostertag-Henning@bgr.de

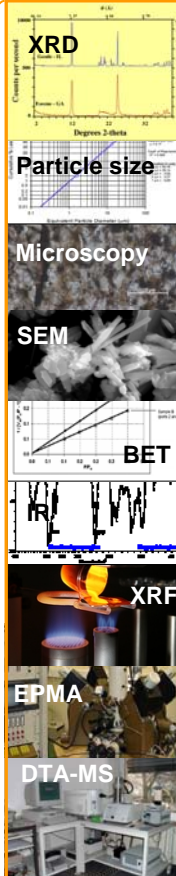
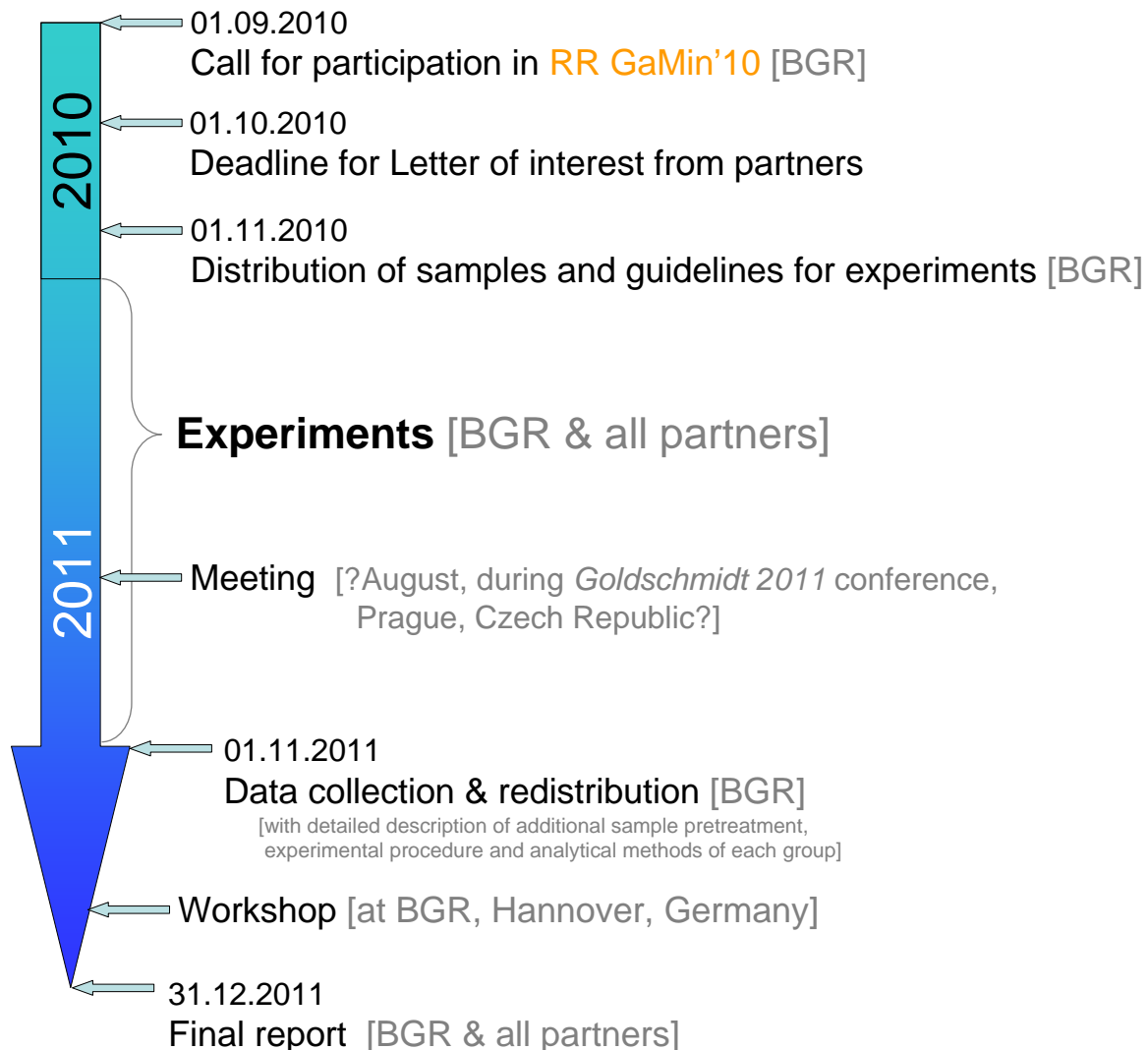
Geochemical experiments on **gas-fluid-rock interactions** have been gaining importance to answer questions regarding reactions occurring during **CO₂ sequestration, enhanced gas/oil recovery** – e.g. steam flooding - and **deep geothermal energy production**. A growing number of institutions around the globe build expertise in conducting geochemical experiments at elevated pressures and temperatures with saline formation waters, gases of different composition and minerals or rocks. One major emerging issue for quality control of the produced kinetic data for distinct mineral dissolution, precipitation or redox reactions is the problem of differing experimental setups used.

For example most studies investigating dissolution reactions used **stirred** reactors with high **fluid-rock ratios** - and the resulting dissolution rates are significantly higher than in nature, non-stirred reactors or at lower fluid-rock-ratios. Other problems arise if **reactive dissolved or gaseous species** should be investigated: The choice of reactor material for studies dealing with e.g. reduced sulfur gases or hydrogen gas influences by surface reactions the experimental result (cf. Truche et al., 10).

To test the range of variance introduced into the kinetic data by differing experimental setups, a selection of minerals from sedimentary rocks was acquired, grain size fractions have been prepared, have been homogenized and selected aliquots have been characterized by a multitude of methods.

This **reference materials** (microcline, plagioclase, calcite, chlorite, muscovite, illite, smectite, gypsum, olivine, hematite) are **available free of charge** for partners joining the round robin test **GaMin '10**.

! If you are interested to be added to the list for the Call for participation, add your name & email adress to the list or send an email!



Dedicated mineral reference materials [at BGR]

