



Plug cleaning, classification, database review and plug archive

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Plug cleaning, classification, database review and plug archive

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TRD LOCRETA Work package E – Rock Mechanics

The work presented in the poster is part of the on-going Locreta project focusing on Lower Cretaceous formations. The overall aim is to provide input such as stiffness and strength properties for e.g. reservoir modeling and 4D seismics interpretation. In order to assure appropriate interpretation of the geomechanics test results, all specimens are cleaned prior to testing. The cleaning removes the salts as well as remaining hydrocarbons, using the Soxhlet method. Pore space cleaning, followed by fluid saturation allows detailed interpretation of the effects from the pore fluid on the stiffness properties. Further, with a saturating fluid of known properties an estimation of dry rock properties feasible through fluid substitution, e.g. by the Gassman's equation. As the core material, especially from the Lower Tuxen formation appeared very fragile, a special cleaning methodology was applied, including wrapping the plugs in plastic foil and by submerging in Toluene prior to the standard cleaning. These additional measures proved very successful with regards to avoid damaging the material further. In relation to the cleaning, the gas permeability and the porosity were measured. In parallel with preparing and testing new plugs, the existing Priority plug database made by GEUS was updated, resulting in a dataset with more than 2300 plugs from 12 wells. The database is presented in an Excel sheet containing the permeability, porosity, grain density – and for some plugs also insoluble residue, XRD and capillary pressure data. The condition of each plug has been reported and the plugs are now stored in an updated plug archive for further use.

