KLARENCO
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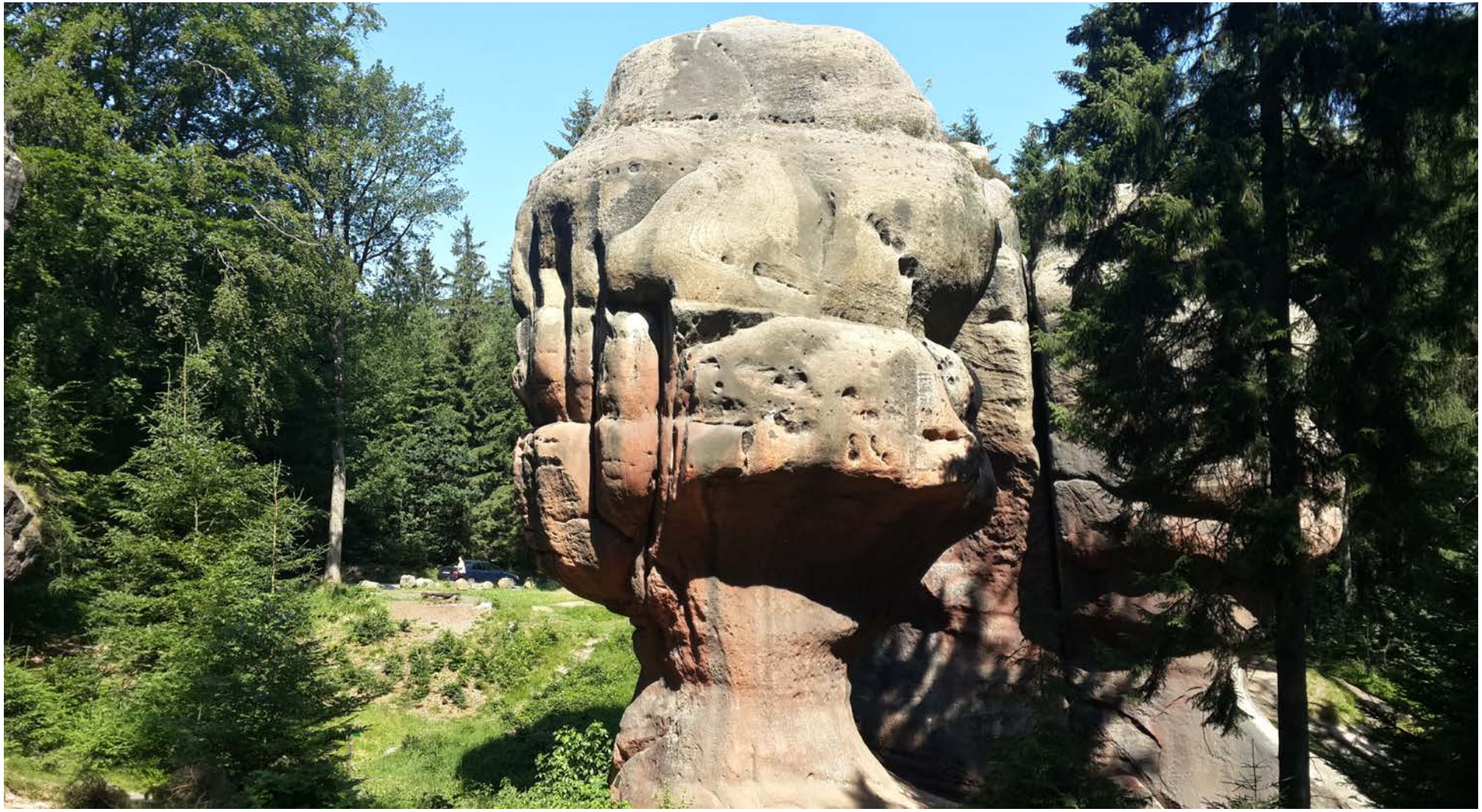
RESERVOIR QUALITY STUDY OF SILICICLASTIC ROCKS

2 days course in Oybin, Germany

14th and 15th of January 2019



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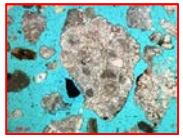
Course Agenda
14th and 15th of January 2019 in Oybin, Germany

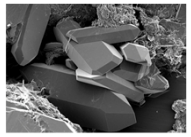
This short course is aimed at giving participants a detailed introduction to the study of siliciclastic reservoirs utilizing oil industry work methodologies. The course is structured in oral and practical sessions, with PPt presentations, didactic material/exercises on petrography & reservoir quality of siliciclastic rock-types through polarizing microscopy & stereo-microscopy. Examples of SEM and CL analyses are also shown to integrate the different methodologies utilized for diagenetic/reservoir quality correlation studies. Examples from siliciclastic oil reservoirs under exploration are also illustrated.

First Day

Introduction. Siliciclastic rocks, classification of sedimentary rocks, type of petro-facies, sediment texture (sorting, grain size, grain shape, grain contacts, textural and mineralogical maturity), detrital components. Sandstone classification, ternary plots (Pettijohn, 1987), depositional markers, chemical & mechanical stability of minerals Sandstone composition, provenance and tectonic settings: Data collection methods (Gazzi-Dickinson), litho-types vs. provenance (Dickinson plots), QFL of sedimentary rocks in different tectonic regimes and rock composition vs. porosity/burial depth. Types of depositional environments, Provenance and reservoir quality. Examples from current East & West Africa reservoirs (e.g. Central Atlantic margins). Exercises.





Second Day

Diagenesis of siliciclastic rocks (early, burial, telogenesis), diagenetic environments & sequences. Diagenetic marine environment, Hot & humid/arid non-marine, near surface, eogenetic environment & burial environment. Diagenetic controls on reservoir quality and porosity variation with depth. Regional petrography vs. stratigraphy. Emphasis on single well or multi-well studies, with regional petrographic correlations. Rock Typing, petrophysical assessment of uncored siliciclastic sediments (e.g. cuttings), practical work performing rock typing classification of selected cuttings to create Rock Typing datasheets. Rock Typing classification schemes as from oil industry methodologies (e.g. Sneider & King, 1984). Rock Typing and assessment of reservoir quality. Exercises.

e-training material for all the attendees & **Training certificates**

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Field Trips
14th and 15th of January 2019 in Oybin, Germany

Day 1

Upper Turonian Sandstone
Kelchstein
90 minutes walk
guided tour

Day 2

Upper Turonian Sandstone
Rosenstein
90 minutes walk
guided tour

Instructor`s Profile
14th and 15th of January 2019 in Oybin, Germany

Dr. Salvatore Morano
Senior Petrography Advisor at Morano Petrography
Napoli, Campania, Italy
www.moranopetrography.com

An experienced sedimentary petrographer, specialized in the assessment of reservoir potential of siliciclastic and carbonate oil and gas reservoirs at well, field and regional scales. Author and co-author of multiple regional projects from reservoirs in East/West Africa, South America, Asia, Australia, New Zealand, Middle East and Europe.

Author of many academic papers and contributor of oil industry events (posters, abstracts and presentations). Mentoring and training of oil corporation staff in sedimentary petrography topics. Expertise in TS analysis of core samples & cuttings tied to wireline logs, as well as, Rock typing, SEM, CL, stable isotopes & epifluorescence microscopy of gas shale samples.

Oil industry job positions did include:
ALS Petrophysics (UK), Core Laboratories (UK) & Corex (UK);

Academic research roles:
Post-doc at the University of Burgundy (France) & Libre Universite' de Bruxelles (Belgium), and PhD research position at the University of Naples "Federico II".

Key Information

Dates:	**14th and 15th of January 2019 (2 Days)**
Location:	**Oybin, Germany (next airport Dresden)**
For whom:	**oil industry geologists/petrophysicists/geophysicists/reservoir/ engineers/drillers and post graduate students, useful for understanding of sandstone reservoirs types.**
Participants:	**max. 15 persons**
Contact:	**ok@klarenco.com**
Course Fee: (all excl. VAT)	**Option 1** **EUR 900 / p.p., including** **2 nights at the Haus Hubertus, including breakfast and dinner** **http://www.naturparkhotel-oybin.de/haushubertus.html** **Shuttle to Airport Dresden and back** **Two guided tours to Upper Turonian Sandstone outcrops** **Option 2** **EUR 700 / p.p.** **without accommodation, shuttle and field trips**
For Eurogeologists:	**Option 1: EUR 760 / p.p.** **Option 2: EUR 560 / p.p.**
Cost for each field trip:	**EUR 15**