

Francis Witkowski, Msc

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Career Outline

Employment:

2005 – present: Cambridge Carbonates Ltd., UK: Geologist and image analysis specialist, working on porosity systems and diagenesis projects as well as running the company CL and Image Analysis systems.

2000 – 2004: Porosity Imaging Ltd., RHUL, London University UK: Technical Manager for CL lab and image analysis of reservoir rocks.

1996 – 1999: Royal Holloway London University, Geology Dept, Egham, Surrey: LINK Programme Principle Researcher in image analysis of carbonate reservoir rocks.

1988 – 1989: BP Exploration Ltd., Sedimentology Branch, London. Geology Technical Assistant. Duties included computer data entry and retrieval, DTP and computer graphics for diagrams/well logs, photomicrography, SEM sample preparation.

Summer 1988: British Geological Survey, Regional Geochemical Mapping Programme. Fieldwork obtaining and collating geochemical samples.

Core skills:

- Key experience in Image Analysis of reservoir rocks using CL and SEM/BSEM
- Geologist in carbonate/evaporite and clastic systems
- Expertise in petrography, geochemistry and diagenesis
- Karstic and tectonic fractured reservoir systems
- Integration of specialist IA/Fluid Inclusion/Element Mapping with petroleum geology
- Knowledge of reservoir porosity systems in Mexico, Middle East, NW+S Europe, North Sea, Russia, Africa, N. America and Far East

Education:

1992 – 1995: Post-Grad Research: Investigation into Weathering of Locharbriggs Sandstone in Urban and Rural Outcrop Environments (*University of Paisley*).

1990 – 1991: M.Sc. Natural Resources Management (*University of Leicester*).

1983 – 1988: B.Sc. (Hons.) Geology, 2:1 (*University of Sheffield*).

Professional Experience

2005 – present: Geologist and IA Specialist, Cambridge Carbonates Ltd., UK.

- Diagenetic and porosity analysis of Norwegian low porosity and fractured Chalk reservoirs.
- Jurassic oolite and dolomite fields of the Mexican Gulf coast including studies of the Sihil, San Andres, Arenque fields; undertaking core and thin-section image analysis for integration with sedimentological and log-based sequence stratigraphy to build static models for field re-activation and well placement.
- Defining matrix and macropore systems and reservoir flow unit architecture in collapse, karst breccia and fractured carbonate systems using outcrop, core, and thin-sections in Cretaceous

dual porosity reservoirs in Apricena, southern Italy. Co-presented at Karst from Recent to Reservoirs, Rapid City, S Dakota, June 2008. Karst Waters Inst., Special Publication 14.

- Appraisal of mixed coarse breccio-conglomerate carbonates and clastics reservoir from the Congo (Tertiary) using core description and thin sections to establish facies and porosity distribution.
- Building an illustrated core log archive for Ukrainian fields (Late Devonian–Carboniferous) synthesised from prior reports and new material (e.g. thin-sections, core photos).
- Early appraisal of reservoir quality using thin section porosity analysis and CL techniques on Kurdistan (Late Cretaceous – Late Eocene) and Iraq (Mid Miocene) samples.
- Diagenetic and reservoir quality studies of geothermal dolomites and carbonates from the Zagros Mountains.

1996 – 2004: Principle Researcher Porosity Analysis, Royal Holloway London University, Geology Dept.

- Description of karst and brecciated Cretaceous carbonate reservoirs of the Cantarell field, offshore/onshore SE Mexico. Macro to matrix pore system characterisation by image analysis to produce unit cell data for modelling.
- CL and porosity study of Cretaceous Iranian outcrop limestones/dolomites to define diagenetic history and porosity evolution establishing a subsurface model to aid production.
- Carbonate exploration studies: Assessment of thin section, core and outcrop images as analogues to analyse different elements of geological risk in play types. Identifying karst, dolomite and matrix porosity in Dinantian carbonates of the onshore UK, southern North Sea and onshore Netherlands areas.
- Defining matrix pore systems by pore size distributions using petrographic image analysis on the Khuff dolomites of Oman.
- Several years developing techniques for porosity analysis over a range of scales (primarily on carbonates but also clastics). Undertaken detailed studies of porosity systems in both dolomite and limestone reservoirs ranging from Devonian up to Mid Miocene ages including fractured, karst and low porosity systems.
- Taught courses on CL techniques/applications in hydrocarbon exploration for IMP, Mexico City and for staff/students at London University
- Supervised PhD, MSc, M.Sci students and staff using the CL and image analysis facilities.
- Presented at several international conferences AAPG (San Antonio), Bathurst (Cambridge), AAPG/EAGE (El Paso) on Image Analysis techniques and their application to oil exploration

Professional Affiliations

Active member of:

- AAPG
- SEPM

Other relevant skills

Image Processing, ArcGIS, Excel, and D.T.P. skills. Basic Spanish and French