

Provenance of Cretaceous Depositional Systems along the West Africa Margin: Senegal

Fully funded MRes studentship as part of the *North Africa Research Group*

Host University: University of Manchester

Supervisors: Prof Jonathan Redfern, Dr Stefan Schroeder, Prof Giovanni Berttoti,

Data Sponsors: NARG and Petrosen

A fully funded MRes studentship to start in September 2018 to examine the provenance of Early Cretaceous depositional systems along the Atlantic margin of Senegal. The project will contribute to our larger study examining the provenance and characterisation of Cretaceous sediments delivered into the Senegal Basin. Along strike variation in quantity and quality of sands controls reservoir distribution along the margin. To investigate sediment distribution and potential catchment areas, sampling has been carried out of outcrop and onshore and offshore core and cuttings data provided by Petrosen as part of the ongoing regional study.

The project will involve petrographic characterisation and heavy mineral analysis to determine the changes in provenance along the margin and predict areas of good reservoir sands. Comparison will be made with work being undertaken in Morocco, to examine the relationships of the Cretaceous depositional trends along the margin.

NARG has established at Manchester a new laboratory facility based on cryogenic density separation of heavy minerals using sodium polytungstate and liquid nitrogen. The project will have full access to these facilities along with the required sieving/crushing units to prepare the samples prior to separation. The project will also have access and training for the extensive identification and rock typing facilities at Manchester, including optical microscopy, Raman spectroscopy, SEM and QEMSCAN.

North Africa Research Group

The North Africa Research Group (NARG) is an integrated research group combining the strengths of the Universities of Manchester, Heriot Watt and Delft, funded by a large consortium of industry companies. The group comprises 11 PhDs, 1 PostDoc and over 10 associated staff from collaborating universities. More details available at www.nerg.org.uk NARG is undertaking extensive projects across North Africa, and have recently embarked on a major series of studies examining Mesozoic depositional systems on/offshore western Morocco along the Atlantic seaboard. Morocco, together with the conjugate margin in Nova Scotia, is an area of active oil and gas exploration, and the results from this study will have an important input to understanding the petroleum system and development of the passive margin.

We seek a highly motivated candidate with the following skills:

- 1st , high 2.1 in geology / petroleum geoscience
- good background in sedimentology and stratigraphic principles, ideally having conducted similar projects at undergraduate or master level

- knowledge of clastic depositional systems
- Independent worker with good organizational skills
- team working skills, with ability to integrate with other team members and industry partners

You would be based within the Basin Studies and Petroleum Geoscience Group at Manchester has 12 academic staff and over 40 PhDs, and offers access to world-leading facilities and research expertise for stratigraphic and sedimentological studies.

Training on the MRes is offered through the Petroleum Geoscience MSc. The successful candidate will take four modules (60 credits) from the taught masters programme, and undertake the research in tandem, to complete a dissertation worth 120 credits. The successful candidate will also have opportunities to interact with and present results to NARG industry partners, and work with the NARG PhD. There is also an opportunity to undertake an internship with one of our sponsor companies in the latter part of the study.

Scholarship: 12 months funding, includes fees, £8000 living allowance scholarship and experimental expenses.

Application: please apply online at: <http://www.manchester.ac.uk/study/postgraduate/how-to-apply/> quoting this MRes advert and the lead supervisor Prof Jonathan Redfern.

Application should be submitted by August 1st 2018

Selected candidates will be called for interview in early August.