

GEOLOGICAL SOCIETY SPECIAL PUBLICATION NO. 326

Global Neoproterozoic Petroleum Systems: The Emerging Potential in North Africa

EDITED BY

J. CRAIG

Eni Exploration and Production Division, Italy

J. THUROW

University College London, UK

B. THUSU

University College London, UK

A. WHITHAM

CASP, Cambridge, UK

and

Y. ABUTARRUMA

Earth Science Society of Libya, Libya

.....

2009

Published by
The Geological Society
London

Contents

Preface	vi
CRAIG, J., THUROW, J., THUSU, B., WHITHAM, A. & ABUTARRUMA, Y. Global Neoproterozoic petroleum systems: the emerging potential in North Africa	1
SMITH, A. Neoproterozoic timescales and stratigraphy	27
BUTTERFIELD, N. J. Macroevolutionary turnover through the Ediacaran transition: ecological and biogeochemical implications	55
SCOTESE, C. R. Late Proterozoic plate tectonics and palaeogeography: a tale of two supercontinents, Rodinia and Pannotia	67
KENDALL, B., CREASER, R. A. & SELBY, D. ^{187}Re – ^{187}Os geochronology of Precambrian organic-rich sedimentary rocks	85
GHORI, K. A. R., CRAIG, J., THUSU, B., LÜNING, S. & GEIGER, M. Global Infracambrian petroleum systems: a review	109
LOTTAROLI, F., CRAIG, J. & THUSU, B. Neoproterozoic–Early Cambrian (Infracambrian) hydrocarbon prospectivity of North Africa: a synthesis	137
LÜNING, S., KOLONIC, S., GEIGER, M., THUSU, B., BELL, J. S. & CRAIG, J. Infracambrian hydrocarbon source rock potential and petroleum prospectivity of NW Africa	157
BENSHATI, H., KHOJA, A. & SOLA, M. Infracambrian sediments in Libyan sedimentary basins	181
LE HERON, D. P., HOWARD, J. P., ALHASSI, A. M., ANDERSON, L., MORTON, A. & FANNING, C. M. Field-based investigations of an ‘Infracambrian’ clastic succession in SE Libya and its bearing on the evolution of the Al Kufrah Basin	193
AZIZ, A. & GHNIA, S. Distribution of Infracambrian rocks and the hydrocarbon potential within the Murzuq and Al Kufrah basins, NW Africa	211
RAHMANI, A., GOUCEM, A., BOUKHALLAT, S. & SAADALLAH, N. Infracambrian petroleum play elements of the NE Taoudenni Basin (Algeria)	221
GÁMEZ VINTANED, J. A., SCHMITZ, U. & LIÑÁN, E. Upper Vendian-lowest Ordovician sequences of the western Gondwana margin, NE Spain	231
BHAT, G. M., RAM, G. & KOUL, S. Potential for oil and gas in the Proterozoic carbonates (Sirban Limestone) of Jammu, northern India	245
BECHSTÄDT, T., JÄGER, H., SPENCE, G. & WERNER, G. Late Cryogenian (Neoproterozoic) glacial and post-glacial successions at the southern margin of the Congo Craton, northern Namibia: facies, palaeogeography and hydrocarbon perspective	255
HLEBSZEVITSCH, J. C., GEBHARD, I., CRUZ, C. E. & CONSOLI, V. The ‘Infracambrian System’ in the southwestern margin of Gondwana, southern South America	289
Index	303