

Contents

Introduction	vii
Acknowledgements	xi
Part I: Tectonic, Geological, Geochemical and Biological Framework	
KELTS, K. Environments of deposition of lacustrine petroleum source rocks: an introduction	3
TALLING, J. F. Modern phytoplankton production in African lakes*	27
TALBOT, M. R. The origins of lacustrine oil source rocks: evidence from the lakes of tropical Africa	29
DE DECKKER, P. Large Australian lakes during the last 20 million years: sites for petroleum source rock or metal ore deposition, or both?	45
OREMLAND, R. S., CLOERN, J. E., SOFER, Z., SMITH, R. L., CULBERTSON, C. W., ZEHR, J., MILLER, L., COLE, B., HARVEY, R., IVERSEN, N., KLUG, M., DES MARAIS, D. J. & RAU, G. Microbial and biogeochemical processes in Big Soda Lake, Nevada	59
SUMMERHAYES, C. P. Predicting palaeoclimates*	77
Part II: Palaeoenvironmental Indicators	
KATZ, B. J. Clastic and carbonate lacustrine systems: an organic geochemical comparison (Green River Formation and East African lake sediments)	81
VANDENBROUCKE, M. & BEHAR, F. Geochemical characterization of the organic matter from some recent sediments by a pyrolysis technique	91
VOLKMAN, J. K. Biological marker compounds as indicators of the depositional environments of petroleum source rocks	103
TEN HAVEN, H. L., DE LEEUW, J. W., SINNINGHE DAMSTÉ, J., SCHENCK, P. A., PALMER, S. E. & ZUMBERGE, J. Application of biological markers in the recognition of palaeo-hypersaline environments	123
DAVISON, W. Interactions of iron, carbon and sulphur in marine and lacustrine sediments	131
YURETICH, R. F. Possible relationships of stratigraphy and clay mineralogy to source rock potential in lacustrine sequences	139
BAHRIG, B. Palaeo-environment information from deep water siderite (Lake of Laach, West Germany)	153
JIANG DE-XIN. Spores and pollen in oils as indicators of lacustrine source rocks	159
Part III: Case Studies	
DUNCAN, A. D. & HAMILTON, R. F. M. Palaeolimnology and organic geochemistry of the Middle Devonian in the Orcadian Basin	173

* Extended abstract.

HILLIER, S. J. & MARSHALL, J. E. A. Hydrocarbon source rocks, thermal maturity and burial history of the Orcadian basin, Scotland*	203
PARNELL, J. Significance of lacustrine cherts for the environment of source-rock deposition in the Orcadian Basin, Scotland	205
LOFTUS, G. W. F. & GREENSMITH, J. T. The lacustrine Burdiehouse Limestone Formation—a key to the deposition of the Dinantian Oil Shales of Scotland	219
PARNELL, J. Lacustrine petroleum source rocks in the Dinantian Oil Shale Group, Scotland: a review	235
GORE, P. J. W. Lacustrine sequences in an early Mesozoic rift basin: Culpeper Basin, Virginia, USA	247
FU JIAMO, SHENG GUOYING & LIU DEHAN. Organic geochemical characteristics of major types of terrestrial petroleum source rocks in China	279
LUO BINJIE, YANG XINGHUA, LIN HEJIE & ZHENG GUODONG. Characteristics of Mesozoic and Cenozoic non-marine source rocks in north-west China	291
BRASSELL, S. C., SHENG GUOYING, FU JIAMO & EGLINTON, G. Biological markers in lacustrine Chinese oil shales	299
WANG TIEGUAN, FAN PU & SWAIN, F. M. Geochemical characteristics of crude oils and source beds in different continental facies of four oil-bearing basins, China	309
McKIRDY, D. M., COX, R. E. & MORTON, J. G. G. Biological marker, isotopic and geological studies of lacustrine crude oils in the western Otway Basin, South Australia*	327
HUTTON, A. C. The lacustrine Condor oil shale sequence	329
GIBLING, M. R. Cenozoic lacustrine basins of South-east Asia, their tectonic setting, depositional environment and hydrocarbon potential	341
ANADÓN, P., CABRERA, L. & JULIÀ, R. Anoxic–oxic cyclical lacustrine sedimentation in the Miocene Rubielos de Mora Basin, Spain	353
CROSSLEY, R. & OWEN, B. Sand turbidites and organic-rich diatomaceous muds from Lake Malawi, Central Africa	369
Index	375

* Extended abstract.