

Contents

Introduction	vii
Mechanics, dynamics and geometry of basin inversion	
SIBSON, R. H. Selective fault reactivation during basin inversion: potential for fluid redistribution through fault-valve action	3
BRODIE, J. & WHITE, N. The link between sedimentary basin inversion and igneous underplating	21
LOWELL, J. D. Mechanics of basin inversion from worldwide examples	39
KNOTT, S. D., BEACH, A., WELBON, A. I. & BROCKBANK, P. J. Basin inversion in the Gulf of Suez	59
MACGREGOR, D. S. Hydrocarbon habitat and classification of inverted rift basins	83
Modelling of basin inversion	
McCLAY, K. R. The geometrics and kinematics of inverted fault systems: a review of analogue model studies	97
EISENSTADT, G. & WITHJACK, M. O. Estimating inversion: results from clay models	119
KELLER, J. V. A. & McCLAY, K. R. 3D sandbox models of positive inversion	137
Recognition and measurement of basin inversion	
GREEN, P. F., DUDDY, I. R. & BRAY, R. J. Applications of thermal history reconstruction in inverted basins	149
HILLIS, R. R. Regional Tertiary exhumation in and around the United Kingdom	167
MENPES, R. J. & HILLIS, R. R. Quantification of tertiary exhumation from sonic velocity data, Celtic Sea/South-Western Approaches	191
Case studies: Americas	
ULIANA, M. A., ARTEAGA, M. E., LEGARRETA, L., CERDÁN, J. J. & PERONI, G. O. Inversion structures and hydrocarbon occurrence in Argentina	211
HOMOVC, J. F., CONFORTO, G. A., LAFOURCADE, P. A. & CHELOTTI, L. A. Fold belt in the San Jorge Basin, Argentina: an example of tectonic inversion	235
SINCLAIR, I. K. Transpressional inversion due to episodic rotation of extensional stresses in Jean d'Arc Basin, offshore Newfoundland	249
Case studies: Europe	
THOMAS, D. W. & COWARD, M. P. Late Jurassic–Early Cretaceous inversion of the northern East Shetland Basin, northern North Sea	275
HOOPER, R. J., LENG SIANG GOH & DEWEY, F. The inversion history of the northeastern margin of the Broad Fourteens Basin	307
DEEKS, N. R. & THOMAS, S. A. Basin inversion in a strike-slip regime: the Tonquist Zone, Southern Baltic Sea	319

HUYGHE, P. & MUGNIER, J.-L. A comparison of inverted basins of the Southern North Sea and inverted structures of the external Alps	339
NEMČOCK, M., GAYER, R. & MILIORIZOS, R. Structural analysis of the inverted Bristol Channel Basin: implications for the geometry and timing of fracture porosity	355
DART, C. J., McCLAY, K. R. & HOLLINGS, P. N. 3D analysis of inverted extensional fault systems, southern Bristol Channel basin, UK	393
BOND, R. M. G. & McCLAY, K. R. Inversion of a Lower Cretaceous extensional basin, south central Pyrenees, Spain	415
GUIMERÀ, J., ALONSO, Á. & RAMÓN MAS, J. Inversion of an extensional-ramp basin by a newly formed thrust: the Cameros Basin (N. Spain)	433
Case studies: Asia	
LAMBIASE, J. J. & BOSWORTH, W. P. Structural development and stratigraphy of the Kyokpo Pull-Apart Basin, South Korea and tectonic implications for inverted extensional basins	457
SAMUEL, M. A., HARBURY, N. A., JONES, M. E. & MATTHEWS, S. J. Inversion-controlled uplift of an outer-arc ridge: Nias Island, offshore Sumatra	473
WANG, G. M., COWARD, M. P., YUAN, W., LIU, S. & WANG, W. Fold growth during basin inversion – example from the East China Sea Basin	493
Case studies: Australasia	
HILL, K. C., HILL, K. A., COOPER, G. T., O’SULLIVAN, A. J., O’SULLIVAN, P. B. & RICHARDSON, M. J. Inversion around the Bass Basin, SE Australia	525
BISHOP, D. J. & BUCHANAN, P. G. Development of structurally inverted basins: a case study from the West Coast, South Island, New Zealand	549
TURNER, J. P. & CORBIN, S. G. Tertiary uplift of a deep rift-sag basin, Cardigan Bay, offshore Wales, UK (extended abstract)	587
Index	589