

## Contents

Preface	vii
JOLLEY, S. J., BARR, D., WALSH, J. J. & KNIPE, R. J. Structurally complex reservoirs: an introduction	1
DOMÍNGUEZ, R. Structural evolution of the Penguins Cluster, UK northern North Sea	25
WELBON, A. I. F., BROCKBANK, P., BRUNSDEN, D. & OLSEN, T. S. Characterizing and producing from reservoirs in landslides: challenges and opportunities	49
HOFFMAN, K. S. & NEAVE, J. W. The fused fault block approach to fault network modelling	75
TERTOIS, A. L. & MALLET, J. L. Editing faults within tetrahedral volume models in real time	89
KRÉZSEK, C., ADAM, J. & GRUJIC, D. Mechanics of fault and expulsion rollover systems developed on passive margins detached on salt: insights from analogue modelling and optical strain monitoring	103
KENDALL, J.-M., FISHER, Q. J., COVEY CRUMP, S., MADDOCK, J., CARTER, A., HALL, S. A., WOOKEY, J., VALCKE, S. L. A., CASEY, M., LLOYD, G. & BEN ISMAIL, W. Seismic anisotropy as an indicator of reservoir quality in siliciclastic rocks	123
WILKINS, S. J. Fracture intensity from geomechanical models: application to the Blue Forest 3D survey, Green River Basin, Wyoming, USA	137
LEWIS, H., HALL, S. A., GUEST, J. & COUPLES, G. D. Kinematically-equivalent but geomechanically-different simulations of fault evolution: the role of loading configurations	159
HALL, S. A. & LEWIS, H. A damage domain approach to integration of geomechanics and seismic anisotropy for fractured reservoir characterization	173
BERGBAUER, S. Testing the predictive capability of curvature analyses	185
FERRILL, D. A., MORRIS, A. P. & SMART, K. J. Stratigraphic control on extensional fault propagation folding: Big Brushy Canyon monocline, Sierra Del Carmen, Texas	203
FISHER, Q. J. & JOLLEY, S. J. Treatment of faults in production simulation models	219
CHILDS, C., WALSH, J. J., MANZOCCHI, T., STRAND, J., NICOL, A., TOMASSO, M., SCHÖPFER, M. P. J. & APLIN, A. C. Definition of a fault permeability predictor from outcrop studies of a faulted turbidite sequence, Taranaki, New Zealand	235
DEE, S. J., YIELDING, G., FREEMAN, B. & BRETAN, P. A comparison between deterministic and stochastic fault seal techniques	259
MYERS, R. D., ALLGOOD, A., HJELBAKK, A., VROLIJK, P. & BRIEDIS, N. Testing fault transmissibility predictions in a structurally dominated reservoir: Ringhorne field, Norway	271
ZIJLSTRA, E. B., REEMST, P. H. M. & FISHER, Q. J. Incorporation of fault properties into production simulation models of Permian reservoirs from the southern North Sea	295
MANZOCCHI, T., WALSH, J. J., TOMASSO, M., STRAND, J., CHILDS, C. & HAUGHTON, P. D. W. Static and dynamic connectivity in bed-scale models of faulted and unfaulted turbidites	309
MA, J., VASZI, A. Z., COUPLES, G. D. & HARRIS, S. D. The link between a heterogeneous model and its flow response: examples from fault damage zones highlighting issues in domain discretization and flow simulation	337
HARRIS, S. D., VASZI, A. Z. & KNIPE, R. J. Three-dimensional upscaling of fault damage zones for reservoir simulation	353
MÄKEL, G. H. The modelling of fractured reservoirs: constraints and potential for fracture network geometry and hydraulics analysis	375
MATTHÁI, S. K., GEIGER, S., ROBERTS, S. G., PALUSZNY, A., BELAYNEH, M., BURRI, A., MEZENTSEV, A., LU, H., COUMOU, D., DRIESNER, T. & HEINRICH, C. A. Numerical simulation of multi-phase fluid flow in structurally complex reservoirs	405
BARR, D. Conductive faults and sealing fractures in the West Sole gas fields, southern North Sea	431

ZHANG, X., KOUTSABELOULIS, N. C., HEFFER, K. J., MAIN, I. G. & LI, L. Coupled geomechanics–flow modelling at and below a critical stress-state used to investigate common statistical properties of field production data	453
MAIN, I. G., LI, L., HEFFER, K. J., PAPASOULIOTIS, O., LEONARD, T., KOUTSABELOULIS, N. C. & ZHANG, X. The Statistical Reservoir Model: calibrating faults and fractures, and predicting reservoir response to water flood	469
Index	483