

CONTENTS

Southeast Australia

M.S. Norvick and M.A. Smith

Mapping the plate tectonic reconstruction of southern and southeastern Australia and implications for petroleum systems

15

J.A. Dickinson, M.W. Wallace, G.R. Holdgate, J. Daniels, S.J. Gallagher and L. Thomas

Neogene tectonics in SE Australia: implications for petroleum systems

37

R.J. Willink and R. Lovibond

Technology, teamwork, respect and persistence: ingredients of successful exploration in the onshore Otway Basin

53

R.P. Crist, J.R. Connolly and L.D. Robinson

Barramundi-I: a case history in fracture analysis and seal integrity in the Bass Basin

71

T. Bernecker, M.A. Woollands, D. Wong, D.H. Moore and M.A. Smith

Hydrocarbon prospectivity of the deepwater Gippsland Basin, Victoria, Australia

91

Onshore Basins

T. Nakanishi and S.C. Lang

The search for stratigraphic traps goes on—visualisation of fluvial-lacustrine successions in the Moorari 3D Survey, Cooper-Eromanga Basin

115

G.J. Ambrose, P.D. Kruse and P.E. Putnam

Geology and hydrocarbon potential of the Southern Georgia Basin, Australia

139

P.J. Hamilton, P.J. Eadington, M. Lisk and N.A. Milne

Fracture formation and fluid flow in the Palm Valley Gas Field, central Australia

165

R.R. Hillis, J.G.G. Morton, D.S. Warner and R.K. Penney

Deep basin gas: a new exploration paradigm in the Nappamerri Trough, Cooper Basin, South Australia

185

X. Sun

Natural fractures of the southern Cooper and eastern Warburton Basins, South Australia

201

S.C. Lang, P. Grech, R. Root, A. Hill and D. Harrison

The application of sequence stratigraphy to exploration and reservoir development in the Cooper-Eromanga-Bowen-Surat Basin system

223

M.C. Daniels, D.T. Moffat and D.A. Castillo

Dynamic fault/fracture seal behaviour and geomechanical analysis of the Greater Gobe Area, Southern Highlands Province, Papua New Guinea

251

CONTENTS

Deepwater Frontiers

T.G. Powell

Understanding Australia's petroleum resources, future production trends and the role of the frontiers

273

M.R. Bussell, D. Jablonski, T. Enman, M.J. Wilson and A.N. Bint

Deepwater exploration: northwestern Australia compared with Gulf of Mexico and Mauritania

289

R. Somerville

The Ceduna Sub-basin—a snapshot of prospectivity

321

Western Australian Basins

C.J. Otto, J.R. Underschultz, A.L. Hennig and V.J. Roy
Hydrodynamic analysis of flow systems and fault seal integrity in the North West Shelf of Australia

347

A.R. Kaiko and A.M. Tait

Post-rift tectonic subsidence and palaeo-water depths in the northern Carnarvon Basin, Western Australia

367

H.C. Young, N.M. Lemon and J.N.F. Hull

The middle Cretaceous to Recent sequence stratigraphic evolution of the Exmouth-Barrow Margin, Western Australia

381

D.C. Barr, A.F. Kennaird, J. Fowles, N.G. Marshall and V.L. Cutten

Determining reservoir continuity in the Laminaria Formation by integrated geological study

415

R.J.W. Bunt, W.D. Powell and T. Scholefield

The Tubridgi Gas Field rejuvenated

429

A.P. Clare and A.J. Crowley

Qualitative analysis of spectral gamma ray data as a tool for fieldwide and regional stratigraphic correlation, Enderby Terrace, Carnarvon Basin, Western Australia

449

K. Liu, C.M. Griffiths and C.P. Dyt

Computer modelling of the Oxfordian depositional systems in the Kendrew Trough, Dampier Sub-basin

463

M.P. Brincat, G.W. O'Brien, M. Lisk, M. De Ruig and S.C. George

Hydrocarbon charge history of the Northern Londonderry High: implications for trap integrity and future prospectivity

483

W.L. Tinapple

Trends and outlook for exploration in Western Australia

497

Organic Geochemistry

S.C. George, T.E. Ruble and A. Dutkiewicz
The use and abuse of fluorescence colours as maturity indicators of oil inclusions from Australasian petroleum systems

505

C.J. Boreham, J.M. Hope and B. Hartung-Kagi
Understanding source, distribution and preservation of Australian natural gas: a geochemical perspective

523

B.G.K. van Aarssen, R. Alexander and R.I. Kagi
Applications of aromatic hydrocarbons: the liquid reaction environment in source rocks—a fundamental stage in oil formation

549

Pore Pressure

K. Dodds, A. Fletcher, E. Bekele, A. Hennig, M. Johnson, W. Abriel, W. Higgs and A. Strudley
An overpressure case history using a novel risk analysis process

559

P.R. Tingate, A. Khaksar, P. van Ruth, D. Dewhurst, M. Raven, H.C. Young, R. Hillis and K. Dodds
Geological controls on overpressure in the northern Carnarvon Basin

573

E.B. Bekele, M.D. Johnson and W.G. Higgs
Numerical modelling of overpressure generation in the Barrow Sub-basin, north-west Australia

595

Drilling and Production

X. Chen, C.P. Tan and C.M. Haberfield
Application of guideline charts in decisionmaking on well trajectory and mud weight program

609

H. Cao and Y. Kurata
Drill bit seismic—drilling optimisation case study: Crux-I

623

M.K. Rahman, M.M. Rahman and S.S. Rahman
A decision support system for improving hydraulic fracture treatment for hydrocarbon reservoirs

633

D.P. Clegg, R.J. Goodson and B. Kirk-Burnnand
Legendre: project managing an innovative development

649

W.H. Grasso
FLNG—a new dawn for LNG

655

D. McFarland
Shale oil—a new production development paradigm

663

Seismic

T. Brice, L. Larsen, S. Morice and M. Svendsun
4D-ready seismic with Q-Marine

671

CONTENTS

S. Reymond, E. Matthews and B. Sissons

Imaging additional oil and gas reserves, integrating well production data and 3D seismic AVO classification to image remaining oil and gas reserves—a case study on the Ngatoro Field, Taranaki, New Zealand

679

Greenhouse

C.D. Mitchell and G.I. Pearman

The science underlying the issue of climate change and prospects for adaptation

689

I.R. Noble

Role of terrestrial sequestration in meeting Kyoto targets

703

A.J. Rigg, G. Allinson, J. Bradshaw, J. Ennis-King, C. Gibson-Poole, R.R. Hillis, S. Lang and J.E. Streit

The search for sites for geological sequestration of CO₂ in Australia: a progress report on GEODISC

711

Environment/Safety

A.D. Barton

Risk-based management of structural integrity for Bass Strait platforms

727

E. Akarsu, D.J. Hamilton and D.C. Tyler

Naturally occurring radioactive material in the oil and gas industry—exposure assessment and management plan

737

K.C.S. Jenner, M-N.M. Jenner and K.A. McCabe

Geographical and temporal movements of humpback whales in Western Australian waters

749

Community and Education Issues

E. Pinceratto

The Minerva Gas Field EIA—a case study of community involvement in decisionmaking

767

B.F. Ronalds

Western Australia—a technology base for the oil and gas industry

777

M. Renilson, J.E. Soholt and G. Macfarlane

Recent developments in ocean engineering education

783

Commercial/Legal

D.A.J. Biggs

Bass Strait gas to New South Wales—the commercialisation of the Eastern Gas Pipeline

787

CONTENTS

Economic/Finance

B. Purdy

How competitive is the Australian income tax regime for exploration and production?

793

P.J. Cameron and J.G. Baird

Market stratigraphy—the 25-year odyssey of the Australian publicly-listed oil and gas sector (is the smaller E&P company threatened with extinction?)

803

D. Kiers

Alliance competence: key capabilities for success

811

Miscellaneous

Conference sponsors 10

Abbreviations and acronym 11

Schlumberger Oilfield advertisement 12

Easo Australia advertisement 13