

Index

- Acadian arc 1
Adetognathus 38, 39
Aethotaxis advena 38
Agat field 285
Alba field 353, 354-64
Albury field 373, 383, 387
Alpine orogeny 53, 380, 395
Altamont Formation 36
Alwyn field 284
Amethyst pluton 92, 94
ammonite zones, Jurassic 173, 174, 175, 176, 276, 277
Amundsen Formation 192, 194, 196
Anchignathodus 38, 39
Andrew field 327
Andrew Formation 341, 353, 354
Andrew Ridge 335
Andrew Tuff 341, 344
Anglo-Brabant High 92
Anglo-Welsh Basin 17
Annan Sandstone 55
Aquitaine-Cantabria microcraton 131
⁴⁰Ar/³⁹Ar dates in North Sea 88, 212
Arbroath field 327
Argyll field 282, 284, 286, 290, 291
Armorican massif 20, 21
Arne field 373
Ashfell Sandstone 58
Ashover Grit 58
Askern-Spital fault 50, 53, 69
asthenosphere melting 208, 209
Auk field 282, 284
Auk Formation 301
Austrian orogeny 334-7
- Bakewell fault 51
Bala fault 50
Balcombe field 387
Balder Formation 341, 344
Ballantrae ophiolite 6
Balmoral field 327
Bamble Trough 135
Banff fault 260
Barren Red Measures 92, 96, 100
Barton fault 51, 53
Basement Beds 58
basement structure effects
 N England 50-3
 North Sea 261
 NW European mainland 25-30, 132, 393
 Weald 373-4
 S England 21
basin development
 effect of basement 25-9
 role in magma generation 207, 208-11
Baxter's Copse field 373, 387
Beatrice field 284
Beaulieu Formation 339, 342
Beckingham fault 59
Beckingham field 49, 74
- Bergen High 157
Bernbjerg Formation 119-20
Beryl Embayment 192, 195-6, 198, 199-201
Beryl field 192, 284
biostratigraphy, Jurassic 170-3
biozones, Jurassic 170-1
BIRPS 1
Bletchingley gasfield 371, 373, 383, 387
Bolney field 373, 383
Bonsall fault 51
boundary stratotypes, Jurassic 171
Bowland Basin 51
 development 19, 53
 plays 74
 stratigraphy 58, 64, 71
Bowland Shales 58, 68
Brabant Massif 1, 2, 18, 19
Brae field 285, 288, 290, 293
Brage field 282, 285, 289, 290, 294
Bray Fault Zone 20, 21
Bream field 284
Brent field 192, 284, 286, 290, 291
Brent Group 194, 197-9, 200
Brigg fault 51
Brimington Anticline 75
Brisling field 284
Bristol Channel Basin 25
Bristol Channel-N Devon Landmass 19, 24
Broad Fourteens Basin 103, 132, 247
Brockham field 387
Broom Formation 194, 197-9
Bruce field 192, 284
Brunel field 327
Buchan field 282, 284
Buchan Formation 301
Buchan Graben 283
Buchi 120
burial studies
 N England 82
 North Sea 101-2
Burton Formation 192, 194, 196
Butterknowle fault 51, 62, 63, 94, 97
- Cadomian arc 1
Caithness basin 11-12, 13
calcite cementation 386-8
Caldon Low 74
Caledonian effects 25-9
 Greenland 109-10
 N England 6-8, 50-1
 North Sea 88, 232, 261, 393
 NW European mainland 132
 Scandinavia 8-9
 Scotland 4-6
 Wales 6-8, 17
Calow gasfield 74, 75
Cambrian of N Europe 130
Cannington fault 21
cap rocks *see* seal rocks

- carbon/sulphur palaeosalinity method 89
- carbonates
 - platform and ramp 55, 61, 62
 - role in diagenesis 98, 99, 100, 386-8
- Carboniferous
 - cyclical sedimentation
 - causes 35-6, 53-5
 - lithology 36-9
 - sequence stratigraphy 55-69
 - palaeogeography 91
 - play fairway analysis
 - carbonates 74-8
 - syn-rift clastics 74, 78-80
 - reservoir rocks
 - basement effects 88-9
 - cementation studies 98-100
 - sedimentology 89-92
 - structures 93-7
 - tectonic setting 92-3
 - source rocks 102-4, 302, 385, 393
 - tectonics 18-19, 24, 110, 127-8, 393
- Cardigan Bay 24
- Celtic Sea graben 24
- cementation studies 386-8
 - see also* diagenesis
- Central Graben
 - igneous activity 212-14
 - position of magmatism 224
 - timing 220
 - stratigraphy 328
 - structure 229-32
 - fault control 232-6
 - reservoir development 240-4
 - trap types 236-40
- Central Rift System 283
- chalk field reservoirs 245-52
- Chalk Group 262
- Chatburn Limestone 58
- Chatsworth Grit 58
- Cherokee Group 36
- Cherryvale Formation 36
- Cheshire Basin 80-2
- chronostratigraphy, Jurassic 169-70, 174-7
- Cimmerian tectonics 302
- Cinderhill fault system 61
- Clarborough fault 59
- clay rims in diagenesis 98, 99, 100
- Claymore field 282, 285, 288, 290, 293, 302
- Claymore Sands 259, 262, 265
- Cleaver Bank zone 103
- Cleveland Basin 51, 53, 80, 82, 103
- climate studies, Permian 135
- Closehouse fault 97
- Clyde field 285
- coccoliths in Jurassic stratigraphy 178-9
- Cod Sands 341, 345
- compaction effects 98, 99, 100
- conodonts and cyclothem interpretation 38, 39-40
- continent rift magmatism 208-11
- Cook Formation 192-3, 194, 196
- Corallian reservoir potential 383
- Cormorant field 284
- Cornubian batholith 24
- Craven faults 19, 50, 53, 61
- Cretaceous
 - palaeogeography 334, 335
 - reservoir rocks 245-52, 285, 290
 - sedimentary events
 - Greenland 121-2
 - North Sea 325-30
 - Weald 375
 - tectonics 320-1, 394
- Cromer Knoll Group 262, 301, 314, 325, 330
- crustal thickening effects 25
- Culm Measures 22, 23
- cyclicality in Carboniferous 53-5
 - cyclothem
 - causes 35-6, 41-6
 - lithology 36-9
- Dalradian 6
- Deer Creek Formation 36
- delta shifting and Carboniferous cycles 42-4
- Dennis Formation 36
- Dent fault 19
- Denton fault 51
- Derbyshire *see* East Midlands
- Devonian
 - basin evolution
 - Britain 11-18, 302
 - Greenland 109-10
 - reservoir rocks 74, 282, 284
 - tectonics 23-4, 393
- Dewey Formation 36
- diagenesis and reservoir quality 98-100
- diapirs and trapping 237
- dinocysts in Jurassic stratigraphy 177-8
 - Kimmeridge Clay Formation 278, 307, 312
 - Piper Formation 305, 307
- Dodman thrust 21
- Dogger High 231
- Dogger Hinge Line 97
- Dogger pluton 88, 94
- dolomite cementation 386-8
- Dornoch Formation 339, 340
- Douglas Group 36
- downthrown traps 319
- Dowsing Fault Zone 18, 94, 103
- Drake field 327
- Drake Formation 193, 194
- Duffield Turbidites 58
- Dukes Wood field 71
- Dunlin field 284
- Dunlin Group 140, 191-3, 194, 195, 196
- dyke swarms, Permian 134
- Eakring field 49, 71, 73
- Eakring-Foston fault 71
- East Midlands hydrocarbon province
 - hydrocarbon generation 80
 - play fairway analysis 74-80
 - sequence stratigraphic analysis 53-5
 - inversion 68-9
 - post-rift 63-8
 - syn-rift 55-63
 - trap formation 69-74
- East North Sea Horst 283
- East Shetland Basin 156, 192-3, 197-9, 201, 283

- East Shetland Platform 335
 Edale Gulf 51, 53, 62
 Edale Shales 68
 Edda chalk field structure 250-1
 Edda fault 246-7
 Egersund Basin 141
 igneous province 214, 220, 224
 Egmonton field 62, 66, 74
 Ekofisk Formation 341
 Elbe-Dobrogea Line 20
 Eldfisk chalk field structure 251, 252
 England, structural development of
 North
 Caledonian 50-1
 Carboniferous basins 18-19, 53-5
 Tertiary 53
 Variscan 51-3
 South 21-4, 371-82
 Eocene *see* Tertiary
 Etive Formation 194, 197-8
 eustatic controls on Carboniferous cycles 44-6
 Everest field 327
 Exline Formation 36
 extension, crustal
 measurement 217-19, 229-30
 mechanisms 222-4
 role in magma generation 207, 208-11

 Faille de Midi 20
 Farne pluton 88, 94
 faults
 basement effects 25-30
 cover effects in North Sea 231-2
 reservoir development 240, 243, 282-95
 trap development 232-6
 Feda Graben 283
 chalk field structures 249-52
 model of formation 247-9
 structure 245-7
 transfer fault zones 231-2
 feldspar in diagenesis 98, 99, 100
 Fisher Bank Basin 231, 233
 Fjerritslev Formation 159
 Fladen Ground Spur 147, 263, 283, 303, 335, 336
 Fladen Group 262, 263-4, 301, 302
 Flannan thrust 7
 Foldvik Creek Group 110, 112-13
 footwall closures 290
 footwall uplift 240, 295, 296
 foraminifera in Jurassic stratigraphy 179-81
 Fort Scott Formation 36
 Forth Formation 262, 301
 Forties Formation 341, 353, 354
 Forties High 335, 336
 Forties igneous province 211-12, 220-1
 Forties-Montrose High 283
 France, Variscan evolution 20-1
 Frigg Formation 341
 Fulmar field 285, 288, 290
 Fulmar Formation 243-4

 development 53
 hydrocarbons 82
 stratigraphy 58, 59, 61, 68
 Gannet field 327
 gasfields
 N England 74, 75, 80
 North Sea 103, 327, 393, 394
 Weald 371, 386
 Gassum Formation 143, 159
 geochronology, Jurassic 170
 Germany, Variscan evolution of 20-1
 Gert Fault 247
 Gilling fault 51
 glacio-eustatic controls on Carboniferous cycles 44-6
 Glamis field 327
 Godley Bridge field 373, 382, 383, 388, 389
Gondolella 38, 39, 40
 Gondwana plate movements 127-8
 Goodworth field 373, 387, 389
 Goyt Trough 19, 51, 74
 Grampian Highlands structure 6
 granites, Caledonian 50, 51, 94
 Grassington Grit Formation 58
 gravity studies 386
 Great Glen Fault 4, 27, 302
 Great Limestone 58
 Great Oolite
 cementation studies 386-8
 reservoir potential 382-3, 384
 Great Scar Limestone 58, 61
 Greenland (East) tectonostratigraphy 108
 Carboniferous 110
 Devonian 109-10
 Permo-Triassic 110-13
 Grensen Nose 245, 283
 grounded rim-synclines 237-40, 241, 243
 Guillemot field 327
 Gullfaks field 282, 284, 287, 290, 292
 Gullfaks South fault 141
 Gyda field 285, 289, 290, 294

 Halibut Bank Formation 301
 Halibut Horst 260, 264, 266, 283, 335
 Halibut Horst Spur 266-7
 halokinesis and trapping 236-40
 hanging wall traps 290
 hanging-wall basin development 25
 Hardegsen event 143-5
 Hardstoft field 49
 Hareelv Formation 119-20
 Harz Mountains 129
 Haskell Formation 36
 Hasteinen Basin 15
 Hathern Evaporites 58
 Hathern Shelf 56-7
 Heather Formation 194, 200-1, 230
 Heathfield field 373, 383
 Hebrides structure 3, 142
 Heimdal field 192
 Helmsdale fault 260
 Hercynian tectonics
 Moray Firth Basin 261-2, 302
 Weald Basin 373-4
 see also Variscan

Gainsborough field 49, 74
 Gainsborough Trough 51

- Hertha Formation 36
 Hidra High 231
 High Wood marine band 58
 Highland Border Group 6
 Highland Boundary Fault 6, 7, 8
 Highlander field 305
 Hild field 284
 Hitra Basin 14
 Hitra Fault 14
 Hochstetter Forland 111, 119
 Hod chalk field structure 251
 Hog's Back fault 21
 Horda Platform
 Jurassic 193, 194, 197, 198, 199, 201
 Triassic 142, 144, 147, 149, 157
 Horndean field 373, 387
 Hornelen Basin 14, 15
 Hot Lens Sandstone 301 312
 Hot Sand 301, 307, 308
 Hot Shale 313
 Hoton fault 51, 53, 61
 Howard Formation 36
 Hugin Formation 194, 200-1
 Huledal Formation 110
 Humber Group 194, 230, 262, 267, 301, 325
 Humbly Grove field 373, 383, 387, 388
- I shale 301, 305
 Iapetus Ocean 130, 131
 Iapetus suture 131
 Icartian basement 21
Idiognathodus 38, 39, 40
Idiopriionodus 38, 39
 igneous activity *see* magma generation *also* volcanism
 illitization in diagenesis 98, 99, 100
 Iltay Boundary Slide 6, 7
 Indefatigable pluton 94
 Inferior Oolite reservoir potential 382-3
 Inner Hebrides basin 142
 Inner Moray Firth 369
 Inner Moray Firth Graben 283
 Inverian episode 2
 inversion sequences 23, 68-9
 Iola Formation 36
 Ireland, basin development of 19
 iron oxide in diagenesis 98, 99, 100
 Ivanhoe Platform 267, 272
- Jaeren High 231, 233, 236, 283, 335, 336
 Jakobsstigen Formation 119
 Jameson Land 109, 110, 115, 118
 Johansen Formation 193, 194
 Johnston Thrust 21, 22
 Josephine High 283
 Jurassic
 magmatism 211-15
 palaeogeography
 Greenland 114, 117
 North Sea 160, 161, 197, 198, 200-3
 reservoir rocks 240-4, 282-90
 sedimentary events
 Beryl Embayment 195-6, 199-200
 East Shetland Basin 192-3, 197-9
- Greenland 115-20
 Moray Firth 262-8, 302-13
 Unst Basin 196
 Weald 374-5
 source rocks, 385
 stratigraphic studies
 biostratigraphy 170-3, 177-84
 chronostratigraphy 169-70, 174-7
 magnetostratigraphy 185-6
 tectonics and structures 229-40, 244-5, 266-73
- K/Ar dates in North Sea 212
 Kansas City Group 36
 kaolin in diagenesis 98, 99, 100
 Kap Fletscher volcanics 110
 Kap Graah Group 109
 Kap Kolthoff Supergroup 109
 Kap Leslie Formation 119-20
 Kap Stewart Formation 115
 Karstryggen Formation 112, 113
 Kennack Gneisses 22
 Kimmeridge Clay Formation
 distribution 269
 lithology 267-8
 stratigraphy 262, 264, 265-6, 301, 302, 307-13
 tectonic controls 230, 270
 Kimmeridge field 373
 Kinderscout Grit 58
 Kittiwake field 327
 Kvamshsten Basin 15
- Lake District evolution 6-8
 Lansing Group 36
 Laurussia 127-8, 130
 Laxfordian event 2
 Lecompton Formation 36
 Lenapah Formation 36
 Lewisian history 1-4
 Lidsay field 373
 limestones of Carboniferous cycles 36, 37-8
 Lincoln fault 50, 51
 Lindesnes Ridge 245, 246, 247
 Ling Graben 260, 261
 Lista Formation 341
 lithosphere strength effects 25
 Liverpool Land 111, 115, 116
 Lizard ophiolite 22, 24, 129
 Loch Maree Group 2
 Lockton fault 51
 Lomer field 387
 Lomvi Formation 140, 142, 146
 Lossiemouth fault 260
 Lost Branch Formation 36
 Lunde Formation 140, 142, 147-51
 Lunedale fault 19, 51, 97
- magma generation in North Sea
 igneous provinces
 Central Graben 212-14
 Egersund Basin 214
 Forties 211-12
 Netherlands 214-15
 relation to basin development 207-8, 394
 extension model 217-21, 222-4

- melt production 208-11
 - sources of magma 215-17
 - temperature of magma 221-2
- magnetostratigraphy, Jurassic 185-6
- Magnus field 282, 285, 288, 290, 293
- Magnus Trough 283
- Mandal High 231, 283
- Manx-Furness Basin 51, 80, 82
- Market Weighton Block 51
- Market Weighton pluton 94
- Marl Unit 341
- Marmaton Group 36
- Marnock field 282, 284, 327
- Massif Central 20
- Maureen field 327
- Maureen Formation 341, 344
- mechanical boundary layer (MBL) 208-9, 219
- melt production *see* magma generation
- Mendip fault 21
- Mercia Mudstone Group 373, 374, 382
- microfossils in Jurassic stratigraphy 177-84
- Mid-North Sea-Rinkøbing Fyn High 25
- Midcontinent Shelf stratigraphy 35-6
- Middleton Anticline 62, 63
- Midland Valley
 - basin development 11-12, 16-17
 - Permian dykes 134
 - Variscan inversion 23
- Midlands microcraton 50
- Miller field 285, 288, 293
- Millers Dale lavas 61
- Milne Land 111, 118, 120, 121
- Minch Basin 3, 4, 11-12, 25, 142
- Moine metasediments 4, 6, 9-11
- Moine Thrust 7, 9
- molasse distribution 70
- Moldanubian zone 20
- Montrose Group 262, 339, 345
- Moray Firth Basin
 - basement structure 11-12, 260, 261-2, 300
 - Jurassic
 - ammonite zones 273-8
 - lithostratigraphy 267-8
 - sediments 262-6
 - tectonics 266-7, 268-73
 - Permo-Triassic sediments 142, 262
 - Tertiary 369
- Moray Firth Rift System 283
- Moray Group 262, 339, 345
- MORB production models 208
- Morecombe Bay gasfield 80
- Mount Celsius Supergroup 109
- mountain belt development 109
- Mousegill marine band 58
- Murchison field 282, 284, 286, 291

- nannofossils in Jurassic stratigraphy 178-9
- natural gamma ray spectrometry 89
- Neill Klinger Formation 115-16
- Neognathodus* 38, 39
- Ness Formation 194, 199
- Netherlands igneous province 214-15, 220-1
- Newark pluton 94
- Ninety fathom fault 51, 97

- Ninian field 284, 286, 290, 291
- North German Basin 10
- North Halibut Graben 267
- North Norfolk pluton 97
- North Sea
 - Mesozoic magmatic history 207-8, 394
 - igneous provinces
 - Central Graben 212-14
 - Egersund Basin 214
 - Forties 211-12
 - Netherlands 214-15
 - magma sources 215-17
 - magma temperatures 221-2
 - melt production 208-11
 - relation to basin development 217-21, 222-4
 - quadrant map 326
- North Sea (Central)
 - Palaeogene
 - sediments 339-40
 - tectonics 340-7
 - see also* Central Graben
- North Sea (North)
 - hydrocarbon finds 282-90
 - Jurassic sediments
 - Beryl Embayment 195-6, 199-200
 - Shetland Basin 192-3
 - Unst Basin 196
 - structural elements 281-2, 283
 - trap types 290-5
 - Triassic palaeogeography 155-62
 - Triassic sediments
 - post-rift sequences 145-55
 - rift sequences 140-5
 - Triassic tectonics 163-6
 - see also* Outer Moray Firth *also* Witch Ground Graben
- North Sea (South)
 - basement 87-9
 - Carboniferous stratigraphy
 - Dinantian 89
 - Namurian 89-90
 - Westphalian 90-2
 - reservoir evolution 98-100
 - structure 93-7
 - tectonic setting 92-3
- Northumberland Basin development 11-12, 53
- Norway
 - Caledonian deformation 8-9, 11, 131
 - Devonian basin development 11-12, 14-15
- Norwegian Central Graben *see* Fedra Graben
- Norwegian-Danish Basin 10, 141

- ocean ridge magmatism 208
- Old Red Sandstone reservoirs 74
- Olympen Formation 118-19
- Oolites *see* Great *also* Inferior
- Orcadian Basin development 11, 12-14
- Ordovician
 - N European mainland 130
 - Scotland 11
- Oread Formation 36
- Oseberg field 192, 284, 287, 290, 292
- Oseberg Formation 194, 199
- ostracoda in Jurassic stratigraphy 181-2, 305

- Outer Hebrides structure 3
- Outer Isles Basin 25
- Outer Isles fault 3, 4
- Outer Isles thrust 7
- Outer Moray Firth Basin
 - basement structure 261-2, 300
 - Jurassic
 - ammonite zones 273-8
 - lithostratigraphy 267-8
 - sediments 262-6
 - tectonics 266-7, 268-73
 - Permo-Triassic sediments 262
- Palaeocene *see* Tertiary
- Palaeogene *see* Tertiary
- palaeogeography
 - Carboniferous 91
 - Cretaceous 334, 335
 - Jurassic
 - Greenland 114, 117
 - North Sea 160, 161, 197, 198, 200-3
 - Permian 111
 - Tertiary 360, 365, 366
 - Triassic 111, 150, 153
- palaeosalinity method 89
- Palmers Wood field 373, 383, 387, 388
- palynology in Jurassic stratigraphy 177-8
- palynomorphs in Jurassic stratigraphy 177
- Pangaea formation 127
- paragenesis 98, 99, 100
- Pawnee Formation 36
- Pendle fault 50, 69, 71
- Pendle Grit Formation 58
- Pendleside Limestone 58
- Pendleside Sandstone 58, 63
- Pentland Formation 262, 301, 302
- peridotite melting 208, 209
- permeability studies 101-2
- Permian
 - palaeogeography 111
 - reservoir rocks of 133-5, 282, 284, 394
 - tectonics 110-12, 394
- petrography, Jurassic 306
- Petronella field 305
- Pewsey fault 21
- phytoplankton in Jurassic stratigraphy 177-9
- pillows, salt 237
- Piper field 282, 285, 288, 290, 293, 305
- Piper Formation
 - distribution 265, 269-70
 - lithology 259, 267-8
 - stratigraphy 262, 264, 301, 302, 303-7
 - teconic controls 268-70
- Planolites* 192
- Plattsburg Formation 36
- play fairway analysis
 - carbonates 74-8
 - clastics 74, 78-80
- Pleasanton Group 36
- Plymouth Bay Basin 24
- porosity studies
 - North Sea 101-2, 333
 - Weald 384, 386-8
- Port Skerrols Thrust 6, 7
- Portland Sand 383
- Portsdown fault 21
- post-rift sequences
 - Carboniferous 63-8
 - Triassic 145-55
- Precambrian basement evolution 1-4
- pressure solution in diagenesis 98, 99, 100
- Proto-Atlantic 131-2
- Proto-Tethys 129
- pseudomatrix in diagenesis 98, 99, 100
- Purbeck anhydrite 383
- Purbeck fault 21
- quartz overgrowths in diagenesis 98, 99, 100
- quadrants in North Sea 326
- radioisotope dates 88, 212, 214
- radiolaria in Jurassic stratigraphy 182-4
- radiometric ages 88, 212, 214
- Rannoch Formation 194, 197-8
- Ratray Volcanics Formation 262, 301, 302
- Raukelv Formation 121
- Ravnefjeld Formation 112
- Redhouse Sandstone 58, 74
- relay ramp 232
- Renee Ridge 335, 336
- reservoir rock studies
 - N England 7, 79-80
 - North Sea
 - distribution 282-90
 - quality controls 98-100, 240-4
 - Weald 382-3
- Rheno-Hercynian zone 20
- rim-synclines 237-40, 241, 243
- rimmed shelf development 55, 61, 62
- Ringkøbing-Fyn High 10, 25, 145, 231
- Rob Roy Platform 267, 271
- Rødby Formation 301, 330
- Roeburndale Grit Formation 58
- Rogaland Group 345
- Rotliegend facies
 - distribution 136
 - reservoir potential 127
 - stratigraphy 133-4, 135
 - volcanics 133, 134-5
- Rusey thrust 21, 24
- salt, role in trapping of 236-40
- Sandwich plutonic complex 13
- Saxo-Thuringen zone 20
- Scampton fault 68
- Scandinavia, Caledonian structures of 8-9
- Scapa Sand 262
- Scar Limestone 58
- Schuchert Dal Formation 112
- Scotland
 - Caledonian structures of 4-6, 7, 11, 131
 - Variscan effects 23
- Scottish Highlands
 - Grampian 6, 369
 - Northwest 4, 369
- Scourian structures 2
- Scremerston Coal Group 89
- sea level changes 328

- seal rocks
 - N England 77, 79, 80
 - North Sea 290-5, 383
 - Weald 383, 389
- Sele Formation 341
- Sele High 141, 147
- sequence stratigraphy
 - Carboniferous of N England 53-5
 - inversion 68-9
 - post-rift 63-8
 - syn-rift 55-63
 - Triassic of North Sea 162-3
 - post-rift 145-55
 - syn-rift 140-5
- serpentine 129
- Sgiath Formation
 - distribution 265, 269, 275, 302
 - lithology 267, 303
 - stratigraphy 262, 264, 301
 - tectonic controls 268-70
- Sgurr Beag Slide 7
- shales of Carboniferous cycles 36-7, 38-9
- Shawnee Group 36
- shear mechanisms 222-4
- Sherwood Sandstone Group 374
- Shetland Basin 11-12, 13, 23
- Shetland Platform 197, 198, 201, 394
- Silurian
 - N European mainland 130, 131
 - Scotland 7, 11
- Silverpit Basin 103-4
- Singleton field 373
- Skagerrak Formation 143, 146, 151, 262, 301
- Skipton-Clitheroe Basin 23
- Sleipner Formation 143, 194
- Sleipner Terrace 335, 336
- Sleipner Vest field 284, 286, 291
- Smith Bank fault 260
- Smith Bank Formation 143, 146, 262, 301
- Snorre field 282, 284, 287, 290, 292
- Sogn Graben 141, 155, 165
- Sola Formation 301, 314, 327-30, 331, 332, 337
- Sole Pit Basin 19, 103, 132, 394
- Sole thrust 7
- Solund Basin 14, 15
- Solway Basin 51, 53, 82-3
- Solway-Cheviot line 6
- Sorgenfrei-Tornquist Line 9, 10
- Sortehat Formation 116
- source rock studies
 - N England 77, 79, 80
 - North Sea 102-4, 225
 - Weald 385-8
- Southern Uplands 6, 7
- sphalerite cementation 386-8
- Stainmore Trough 51
 - basin development 53
 - stratigraphy 58, 61, 63
 - structure 62-3
- Standal fault 15
- Stanton Formation 36
- Statfjord field 284, 287, 290, 292
- Statfjord Formation 140, 142, 151-4, 194
- Stoborough field 373
- Stockbridge field 373, 383, 387, 389
- Stockdale Farm Formation 58
- Stoer Group 3
- Stord Basin 143, 192, 197, 198, 283
- Storrington field 373, 383, 387
- stretching
 - estimates 217-19
 - models 222-4
- Stublick fault 51, 97
- subsidence, controls on 25
- Swinstone Bottom marine band 58
- Swope Formation 36
- syn-rift sequences
 - Carboniferous 55-63
 - Triassic 140-5
- Tail End Graben 231-2, 247, 283
- Tampen Spur 142, 147, 148, 152, 156, 164, 283
- Tarbert Formation 194, 200
- Tartan field 305, 327
- Tartan Ridge 267
- Tay Formation 301
- tectonic elements in North Sea history 1, 283
- tectonics and Carboniferous cycles 244-5
- Teeside pluton 88, 94
- Teichichnus* 192
- Teisseyre Line 130
- Teist Formation 140, 142, 146
- Terebellina* 192
- Tertiary
 - palaeogeography 360, 365, 366
 - sediments
 - Eocene 360-4
 - Palaeocene 353-60
 - Palaeogene 339-40
 - tectonics 53, 369, 375-82, 395
 - Palaeogene 340-7
- thermal boundary convection layer (TBCL) 109
- thermal boundary layer (TBL) 209
- thermal doming effects 394
- thermal subsidence effects 25, 54, 110
- Theta Graben 267, 271, 272, 274
- Thistle field 282, 284, 290, 291
- Thornton Limestone 58
- Thulean volcanism 395
- Tommeliten chalk field structure 250
- Tommeliten fault zone 249
- Topeka Formation 36
- Tornquist Line 8-9, 130
- Tornquist Sea 130, 232
- Toronto Formation 36
- Torridon Group 3-4
- total organic carbon (TOC) 385
- Trans European Fracture Zone 9, 10
- transfer faults 231-2, 233-6
- trap formation
 - Central Graben
 - structures 232-6
 - trap classification 236-40
 - Feda Graben 249-52
 - N England 69-74
 - N North Sea
 - pre-rift 282
 - syn-rift 282-90

- Weald 388-90
- Witch Ground Graben 319-21
- Triassic
 - palaeogeography 111, 150, 153
 - reservoir rocks 282, 284, 373, 374
 - sedimentary events 140-55, 262
 - tectonics 24-5, 163-6, 394
- triple junction, role in magmatism of 224
- Troll field 282, 285, 289, 290, 294
- Tweed Basin 51
- Tyne Bottom Limestone 58

- Ula field 285, 289, 294
- uniform stretching model 207, 222
- Unst Basin 196, 197, 198, 201, 283
- Unst ophiolite 6
- Upper Felltop Limestone 58
- upthrown traps 319
- Utsira High 141, 147, 283

- Vale of Eden Basin 51
- Valhall chalk field structure 251, 252
- Valhall Formation 301 302, 313-19, 325-7
- Vardekløft Formation 116-18
- Variscan tectonics 29, 127-8, 393-4
 - European mainland 20-1, 130-3
 - N England 51-3
 - S Britain 21-4, 26
 - see also Hercynian
- Viking Graben 131, 283
 - magmatism 220, 224
 - sediments
 - Cretaceous 328
 - Jurassic 195-6, 197, 198, 199-201, 328
 - Triassic 143, 156, 157
- Viking Rift System 283
- Viking trend 263
- Vinding Formation 159
- Vitddal Supergroup 109
- vitrinite reflectance studies
 - Carboniferous 102, 104
 - Jurassic 385
- volcanism
 - Jurassic 230, 262, 264, 394
 - Permian 133, 134-5
 - Tertiary 395

- Wabaunsee Group 36
- Waddock's Cross field 373

- Wales
 - Caledonian basement 8, 17, 50
 - Carboniferous sediments 19
 - Variscan structures 21, 22
- Walls Boundary Fault 23, 25, 27
- Walls Peninsula 12, 13
- Wareham field 373
- Waulsortian buildups 56, 57
- Waverley field 327
- Weald Basin
 - basement 373-4
 - exploration history 371
 - geological setting 371-3
 - reservoir quality 382-3
 - sediments 374-5
 - source rocks 385-8
 - tectonics 375-82
 - trap mechanisms 388-90
- Wegener Halvo Formation 112
- Welton field 49, 74, 76
- West Central Graben 283
- West Forties Basin 231
- West Orkney Basin 5, 12-14, 25
- Western Approaches 24
- Whin Sill 134
- Whita Sandstone 55
- Wick Fault 260, 262
- Widmerpool Basin 51
 - development 53
 - stratigraphy 56-7, 58, 61, 65, 68
- Wigglesworth fault 62, 63
- Witch Ground Graben
 - geological setting 259, 283, 325
 - stratigraphy 301
 - Cretaceous 313-19, 325-30
 - Jurassic 266, 302-13
 - Tertiary 354-64
 - structure 260, 261, 299-300, 328
 - trap development 319-21
- Witch Ground trend 259
- Wollaston Forland 111, 116, 119, 120
- Worcester graben 21
- Wordie Creek Group 113
- Worston Shale Formation 57, 58
- Wyandotte Formation 36
- Wytch Farm field 371, 373

- Yoredales 61

- Zechstein Group 301
- Zuidwal volcano 214, 215

Deformation Mechanisms, Rheology and Tectonics

Geological Society Special Publication No. 54

Edited by R.J. Knipe (Leeds University, UK) and E.H. Rutter (Manchester University, UK)

The papers in this book are gathered into groups that aim to reflect current research themes ranging from geologically-orientated rock mechanics, through structural and microstructural studies of naturally-deformed rock masses to large-scale tectonics. Some of the thematic groups contain a paper with a substantial review component to provide an introductory framework for those new to the subject, however, the book is dominated by original research papers.

- International field of contributors
- Published December 1990
- 528 pages
- 46 papers
- 326 illustrations
- List price* £85/US\$142
- ISBN 0-903317-58-3

Principal Authors

N.L. Carter (Texas A&M University, USA)
R.H. Sibson (University of California, USA)
J.P. Evans (Utah State University, USA)
S.M. Agar (Leeds University, UK)
M. Casey (ETH-Z, Switzerland)
S.J.D. Cox (CSIRO Geomechanics, Australia)
S.J. Hippler (Leeds University, UK)
I.G. Main (Edinburgh University, UK)
G. Zulauf (Goethe Universität, FRG)
I.S. Stewart (Bristol University, UK)
Teng-Fong Wong (State University of New York, USA)
R.K. Davies (Texas A&M University, USA)
H.W. Green II (University of California, USA)
B.E. Hobbs (CSIRO Geomechanics, Australia)
E.M. Klaper (Bern University, Switzerland)
D.L. Olgaard (ETH, Switzerland)
A. Ord (CSIRO Geomechanics, Australia)
E. Carrio-Schaffhauer (IRIGM, France)
R.C.M.W. Franssen (Utrecht University, The Netherlands)
C.J. Spiers (Utrecht University, The Netherlands)
J.A. Gilotti (Uppsala University, Sweden)
M. Burkhard (Institut de Geologie, Switzerland)
A.N. Walker (Imperial College, UK)
J.H.P. De Bresser (Institute of Earth Sciences, The Netherlands)
M.S. Paterson (Australian National University, Australia)
D.J. Prior (Liverpool University, UK)
W. Skrotzki (Universität Göttingen, FRG)
J.C. White (University of New Brunswick, Canada)
R.D. Law (Virginia Polytechnic, USA)
M.W. Jessell (Monash University, USA)
Jin-Han Ree (State University of New York, USA)
N.B. Ølesen (Geologisk Institut, Denmark)
H. Schaeben (University of Bonn, FRG)
D.E. Karig (Cornell University, USA)
N.A. Yassir (University of Waterloo, Canada)
P.A.R. Nelli (British Antarctic Survey, UK)
K.T. Pickering (Leicester University, UK)
Shumin Liu (Queen's University, Canada)
K.R. McClay (University of London, UK)
C.J.L. Wilson (Melbourne University, Australia)
J.P. Gratier (Université Joseph Fourier, France)
M. Coli (Università Firenze, Italy)
F. Sani (University of Florence, Italy)
R.E. Holdsworth (Reading University, UK)
J.E. Niffe (University of South Carolina, USA)
J.L. Ural (Institute of Earth Sciences, The Netherlands)

Outline of Contents

Role of fluids in rock deformation: Conditions for fault-valve behaviour • Textures, deformation mechanisms and the role of fluids in the cataclastic deformation of granitic rocks • **Fracture and faulting:** Fracture evolution in the upper ocean crust: evidence from DSDP hole 504B • Calculation of bulk rheologies of structured materials and application to brittle failure in shear • Damage development during rupture of heterogeneous brittle materials: a numerical study • Velocity-dependent friction in a large direct shear experiment on gabbro • The evolution of cataclastic rocks from a pre-existing mylonite • Influence of fractal flaw distributions on rock deformation in the brittle field • Brittle deformation and graphitic cataclases in the pilot research well KTB-VB • Brecciation and fracturing within neotectonic normal fault zones in the Aegean region • Mechanical compaction and the brittle-ductile transition in porous sandstones • **Instabilities and localization:** Shear bands in a plastic layer at yield subjected to combined shortening and shear: a model for the fault array in a duplex • The failure mechanism for deep-focus earthquakes • Instability, softening and localization of deformation • Reaction-enhanced formation of eclogite facies shear zones in granulite facies anorthosites • A case study of the role of second phase in the localization of deformation • Mechanical controls on dilatant shear zones • Propagation and localization of stylolites in limestones • **Flow mechanisms and flow laws** • Deformation of polycrystalline salt in compression and shear at 250-350°C • Experimental determination of constitutive parameters governing creep of rock salt by pressure solution • Phenomenological superplasticity in rocks • Ductile deformation mechanisms in micritic limestones naturally deformed at low temperatures, 150-350°C • Experimental study of grain-size sensitive flow of synthetic, hot-pressed calcite rocks • High-temperature deformation of calcite single crystals by r + and f + slip • Quartz rheology under geological conditions • Estimates of the rates of microstructural change in mylonites • Microstructure in hornblende of a mylonitic amphibolite • Albite deformation within a basal ophiolite shear zone • **Rocks fabrics:** Crystallographic fabrics; a selective review of their applications to research in structural geology • A simulation of the temperature dependence of quartz fabrics • High temperature deformation of octachloropropane: dynamic grain growth and lattice reorientation • The SEM/ECP technique applied on twinned quartz crystals • Practical application of entropy optimization in quantitative texture analysis • **Deformation of weak sediments:** Experimental and observational constraints on the mechanical behaviour in the toes of accretionary prisms • The undrained shear behaviour of fine-grained sediments • Deformation in an accretionary melange, Alexander Island, Antarctica • Vein structure and the role of pore fluids in early deformation of late Miocene volcanoclastic rocks, Miura group, SE Japan • **Experimental modelling using analogue materials:** Centrifuge modelling of thrust faulting; strain partitioning and sequence of thrusting in duplex structures • Deformation mechanisms in analogue models of extensional fault systems • Slickenside lineations due to ductile processes • **Deformation mechanisms and tectonics:** Transition between seismic and aseismic deformation in the upper crust • Vein distribution in a thrust sheet, a case history from N. Apennines, Italy • Extensional veining and shear joint systems in a trust-fold zone (N. Apennines, Italy) • Convergence-related dynamic spreading in a mid-crustal thrust zone: an orogenic wedge model • Structural implications of compactional strain caused by fault block rotation: evidence from two-dimensional numerical analogues • Alpine deformation on Naxos (Greece)

* FGS price available on request provided that the correct member number is quoted.

The Geometry of Normal Faults

Geological Society Special Publication No. 56

Edited by A.M. Roberts, G. Yielding and B. Freeman (Badley, Ashton & Associates, UK)

During the 1980s a resurgent interest in extensional tectonics resulted, to a large extent, from the ever-increasing non-proprietary availability of seismic-reflection data. In the early-to-mid 1980s much work on extensional fault-systems focused on the innovative application of thrust-belt-type models to extensional basins. In particular the concepts of section-balancing were introduced to those investigating normal faults.

By the late 1980s it was becoming apparent that the universal application of such models was fraught with difficulty. In particular the evidence of both earthquake seismology and detailed field studies began to indicate that faults involved in crustal extension may be, on all scales, essentially planar structures, not linked to a 'listric' thrust-type array.

It is now clear from the geological record that both planar and listric normal faults exist. This book aims to discuss the geological setting and interpretation of these structures.

Principal Authors

R.F.P. Hardman (Amerada Hess Ltd, UK)
D. Barr (BP, UK)
J. Cartwright (Imperial College, UK)
N.J. Kusznir (Liverpool University, UK)
A.M. Roberts (Badley, Ashton & Associates, UK)
G. Yielding (Badley, Ashton & Associates, UK)
M.P. Coward (Imperial College, UK)
A.G. Koestler (GEORECON, Norway)
S. Roberts (Bullard Laboratories, UK)
R. Westaway (Durham University, UK)
A. Beach (Alastair Beach Associates, UK)
T.J. Chapman (GECO, UK)
J.J. Walsh (Liverpool University, UK)
G. Dresen (Geologisches Institut des THD, Germany)
R.W. Krantz (Université de Rennes, France)
K.R. McClay (Royal Holloway & Bedford New College, UK)
B. Vendeville (Texas University at Austin, USA)
N. White (Bullard Laboratories, UK)

Outline of Contents

The significance of normal faults in the exploration and production of North Sea hydrocarbons • **Seismic and subsurface studies** • Subsidence and sedimentation in semi-starved half-graben: a model based on North Sea data • The kinematic evolution of the Coffee Soil Fault • A flexural-cantilever simple-shear/pure-shear model of continental lithosphere extension: applications to the Jeanne d'Arc Basin, Grand Banks and Viking Graben, North Sea • Deformation around basin-margin faults in the North Sea/mid-Norway rift • Seismic reflections from normal faults in the northern North Sea • **Field-based studies** • Extensional structures and their tectonic inversion in the Western Alps • Description of brittle extensional features in chalk on the crest of a salt ridge (NW Germany) • Active normal faulting in central Greece: an overview • Continental extension on sets of parallel faults: observational evidence and theoretical models • **Fault-displacement studies** • The geometry of normal faults in a sector of the offshore Nile Delta, Egypt • The displacement patterns associated with a reverse-reactivated, normal growth fault • Geometric and kinematic coherence and scale effects in normal fault systems • **Analogue-modelling and section-balancing** • Numerical and analogue modelling of normal fault geometry • Normal fault geometry and fault reactivation in tectonic inversion experiments • Physical and seismic modelling of listric normal fault geometrics • **Mechanisms generating normal fault curvature: a review illustrated by physical models** • Calculating normal fault geometries at depth: theory and examples

- Published January 1991
- 264 pages
- 17 papers
- 185 illustrations
- ISBN 0-903317-59-1
- List price* £58/US\$115

* FGS price available on request provided that the correct member number is quoted.

Developments in Sedimentary Provenance Studies

Geological Society Special Publication No. 57

Edited by A.C. Morton (British Geological Survey, UK), S.P. Todd (BP, UK) and P.D.W. Haughton (Glasgow University, UK)

The study of sedimentary provenance interfaces several of the mainstream geological disciplines. Its remit includes the location and nature of sediment source areas, the pathways by which sediment is transferred from source to basin of deposition, and the factors that influence the composition of sedimentary rocks. Materials subject to study are as diverse as recent muds in the Mississippi River basin, Archaean shales, and soils on the Moon.

Provenance data can play a critical role in assessing palaeogeographic reconstructions, in constraining lateral displacements in orogens, in characterising crust which is no longer exposed, in testing tectonic models for uplift of fault block or orogen scale, in mapping depositional systems, in sub-surface correlation and in predicting reservoir quality. On a global scale, the provenance of fine-grained sediments have been used to monitor crustal evolution.

The aim of the book is to achieve a better understanding of how grain components which comprise a sedimentary rock were assembled, to reconstruct source areas with greater confidence, and to use provenance data more effectively to test tectonic models.

Principal Authors

P. Allen (Reading University, UK)
G.G. Zuffa (Universita di Bologna, Italy)
A.C. Morton (British Geological Survey, UK)
A. Tortosa (Universidad Complutense de Madrid, Spain)
A. Basu (Indiana University, USA)
A.J. Hurford (University of London, UK)
D.J. Batten (University of Wales, UK)
M.A. Velbel (Michigan State University, USA)
A.E. Milodowski (British Geological Survey, UK)
R. Valloni (Universita de Parma, Italy)
R.A. Cliff (Leeds University, UK)
P.A. Floyd (Keele University, UK)
C.M. Gerrard (Cotswold Archaeological Trust, UK)
J.R. Graham (Trinity College, Ireland)
D. Pirrie (Camborne School of Mines, UK)
B. Humphreys (Lemigas, Indonesia)
J. Arribas (Universidad Complutense de Madrid, Spain)
I.R. Garden (Badley, Ashton & Associates, UK)
G. Nichols (Royal Holloway & Bedford New College, UK)
P.A. Cawood (Memorial University of Newfoundland, Canada)
J.A. Evans (British Geological Survey, UK)
T. McCann (University College, Ireland)
M.J. Evans (BP, UK)
S.J. Cuthbert (Glasgow, UK)

Outline of Contents

Provenance research: Torridonian and Wealden, examples • Turbidite arenites in provenance studies • Geochemical studies of detrital heavy minerals: applications to provenance research • Quartz grain types in Holocene deposits from the Spanish Central System • Detrital opaque Fe-Ti oxide minerals in provenance determination • Fission track dating in discrimination of provenance • Reworking of plant microfossils and sedimentary provenance • Triassic rift-valley redbeds of eastern North America: a case study • Redistribution of rare earth elements during diagenesis of turbidite/hemipelagic mudrock sequences • Selective alteration of arkose framework on Oligo-Miocene turbidites • Sourcelanda for Carboniferous Pennine river system: constraints from sedimentary evidence and U-Pb geochronology • Geochemistry and provenance of Rhenohercynian synorogenic sandstones • Sedimentary petrology for the archaeologist • A local source for the Ordovician Derryveeny Formation, western Ireland • Controls on the petrographic evolution of an active margin sedimentary sequence • An integrated approach to provenance studies: a case example from the Central Graben, North Sea • Petrographic evidence of different provenance in two alluvial fan systems (Palaeogene of the northern Tajo Basin, Spain) • Changes in the provenance of pebbly detritus in southern Britain and northern France associated with basin rifting • Petrological and geochemical determination of provenance in the southern Welsh Basin • Nature and record of igneous activity in the Tonga arc, SW Pacific • Isotopic characteristics of Ordovician greywacke provenance in the Southern Uplands of Scotland • Sandstones of arc and ophiolite provenance in a backarc basin, Halmahera, eastern Indonesia • The provenance of sediments in the Barrême thrust-top basin, Haute-Provence, France • Evolution of the Devonian Hornelen Basin, West Norway

- Published January 1991
- 312 pages
- 25 papers
- 202 illustrations
- Includes colour plates
- ISBN 0-903317-56-7
- List price* £66/US\$130

* FGS price available on request provided that the correct member number is quoted.

Special Publications of The Geological Society

- 54 Deformation Mechanisms, Rheology and Tectonics
- 53 Glacimarine Environments: Processes and Sediments
- 52 Phosphorite Research and Development
- 51 The Cadomian Orogeny
- 50 Classic Petroleum Provinces
- 49 The Geology and Tectonics of the Oman Region
- 48 Geological Applications of Wireline Logs
- 47 Origins and Evolution of the Antarctic Biota
- 46 Phanerozoic Ironstones
- 45 Alpine Tectonics
- 44 Inversion Tectonics
- 43 Evolution of Metamorphic Belts
- 42 Magmatism in the Ocean Basins
- 41 Deltas: Sites and Traps for Fossil Fuels
- 40 Lacustrine Petroleum Source Rocks
- 39 Early Tertiary Volcanism and the Opening of the NE Atlantic
- 38 The Caledonian-Appalachian Orogen
- 37 Gondwana and Tethys*
- 36 Diagenesis of Sedimentary Sequences
- 35 Desert Sediments: Ancient and Modern
- 34 Fluid Flow in Sedimentary Basins and Aquifers
- 33 Geochemistry and Mineralization of Proterozoic Volcanic Suites
- 32 Coal and Coal-bearing Strata: Recent Advances
- 31 Geology and Geochemistry of Abyssal Plains
- 30 Alkaline Igneous Rocks
- 29 Deformation of Sediments and Sedimentary Rocks
- 28 Continental Extensional Tectonics
- 27 Evolution of the Lewisian and Comparable Precambrian High Grade Terrains
- 26 Marine Petroleum Source Rocks
- 25 Sedimentation in the African Rifts
- 24 The Nature of the Lower Continental Crust
- 23 Habitat of Palaeozoic Gas in North West Europe (Scottish Academic Press)
- 22 The English Zechstein and Related Topics
- 21 North Atlantic Palaeoceanography
- 20 Palaeoecology and Biostratigraphy of Graptolites
- 19 Collision Tectonics
- 18 Sedimentology: Recent Developments and Applied Aspects
- 14 Variscan Tectonics of the North Atlantic Region
- 10 Trench-Forearc Geology
- 8 The Caledonides of the British Isles – reviewed
- 6 Geological Background to Fossil Man
- 1 The Phanerozoic Time-Scale

Special Reports of The Geological Society

- 19 Magnetostratigraphy
- 18 Geophysical Logs in British Stratigraphy
- 17 Acritarchs in British Stratigraphy
- 16 Trilobites in British Stratigraphy
- 15 A Correlation of Jurassic Rocks in the British Isles, Pt 2, Middle and Upper Jurassic
- 14 A Correlation of Jurassic Rocks in the British Isles, Pt 1, Lower Jurassic
- 13 A Correlation of Triassic Rocks in the British Isles
- 12 A Correlation of Tertiary Rocks in the British Isles
- 10 A Correlation of Silesian Rocks in the British Isles
- 9 A Correlation of Cretaceous Rocks in the British Isles
- 8 A Correlation of Devonian Rocks in the British Isles
- 7 A Correlation of Dinantian Rocks in the British Isles
- 6 A Correlation of Precambrian Rocks in the British Isles
- 2 A Correlation of Cambrian Rocks in the British Isles
- 1 A Correlation of Silurian Rocks in the British Isles

Memoirs of The Geological Society

- 12 Palaeozoic Palaeogeography and Biogeography
- 11 The Ophiolite of Northern Oman
- 10 The Chronology of the Geological Record
- 9 The Nature and Timing of Orogenic Activity in the Caledonian Rocks of the British Isles
- 8 A Palaeogeological Map of the Lower Palaeozoic Floor below the cover of Upper Devonian, Carboniferous and Later Formations
- 6 Late Pre-Cambrian Glaciation in Scotland
- 5 Shallow-water Sedimentation, as illustrated in the Upper Devonian Baggy Beds
- 4 The Geology of Portuguese Timor

Geological Society Engineering Geology Special Publications

- 6 Field Testing in Engineering Geology
- 5 Engineering Geology of Underground Movements
- 4 Planning and Engineering Geology
- 3 Groundwater in Engineering Geology
- 2 Site Investigation Practice: Assessing BS 5930

Titles not listed are out of print

** Available from Oxford University Press*