

# Contents

PARSON, L. M. & MORTON, A. C. Introduction	ix
<b>Volcanic and Tectonic Framework</b>	
WHITE, R. S. A hot-spot model for early Tertiary volcanism in the N Atlantic	3
BOTT, M. H. P. A new look at the causes and consequences of the Icelandic hot-spot	15
DEWEY, J. F. & WINDLEY, B. F. Palaeocene–Oligocene tectonics of NW Europe	25
<b>Dipping Reflectors and NE Atlantic Evolution</b>	
MUTTER, J. C. & ZEHNDER, C. M. Deep crustal structure and magmatic processes: the inception of seafloor spreading in the Norwegian–Greenland Sea	35
SKOGSEID, J. & ELDHOLM, O. Early Cainozoic evolution of the Norwegian volcanic passive margin and the formation of marginal highs	49
PARSON, L. M. & the ODP LEG 104 SCIENTIFIC PARTY. Dipping reflector styles in the NE Atlantic Ocean	57
VIERECK, L. G., TAYLOR, P. N., PARSON, L. M., MORTON, A. C., HERTOGEN, J., GIBSON, I. L. & the ODP LEG 104 SCIENTIFIC PARTY. Origin of the Palaeogene Vøring Plateau volcanic sequence	69
GUDLAUGSSON, S. T., GUNNARSSON, K., SAND, M. & SKOGSEID, J. Tectonic and volcanic events at the Jan Mayen Ridge microcontinent	85
LARSEN, H. C. & JAKOBSDÓTTIR, S. Distribution, crustal properties and significance of seawards-dipping sub-basement reflectors off E Greenland	95
ANDERSEN, M. S. Late Cretaceous and early Tertiary extension and volcanism around the Faeroe Islands	115
MERRIMAN, R. J., TAYLOR, P. N. & MORTON, A. C. Petrochemistry and isotope geochemistry of early Palaeogene basalts forming the dipping reflector sequence SW of Rockall Plateau, NE Atlantic	123
FALEIDE, J. I., MYHRE, A. M. & ELDHOLM, O. Early Tertiary volcanism at the western Barents Sea margin	135
KRISTJANSSON, L. & HELGASON, J. Some properties of basalt lava sequences and volcanic centres in a plate-boundary environment	147
LARSEN, H. C. A multiple and propagating rift model for the NE Atlantic (extended abstract)	157
<b>E Greenland and the Faeroe Islands</b>	
GILL, R. C. O., NIELSEN, T. F. D., BROOKS, C. K. & INGRAM, G. A. Tertiary volcanism in the Kangerdlugssuaq region, E Greenland: trace-element geochemistry of the Lower Basalts and tholeiitic dyke swarms	161
HOLM, P. M. Nd, Sr and Pb isotope geochemistry of the Lower Lavas, E Greenland Tertiary Igneous Province	181
HOGG, A. J. C., FAWCETT, J. J., GITTINS, J. & GORTON, M. P. Cyclical tholeiitic volcanism and associated magma chambers: eruptive mechanisms in E Greenland (extended abstract)	197

NOBLE, R. H., MACINTYRE, R. M. & BROWN, P. E. Age constraints on Atlantic evolution: timing of magmatic activity along the E Greenland continental margin	201
TARLING, D. H., HAILWOOD, E. A. & LØVLIE, R. A palaeomagnetic study of lower Tertiary lavas in E Greenland and comparison with other lower Tertiary observations in the northern Atlantic	215
WAAGSTEIN, R. Structure, composition and age of the Faeroe basalt plateau	225
<b>Volcanism in Basins to the N and W of the British Isles</b>	
GIBB, F. G. F. & KANARIS-SOTIRIOU, R. The geochemistry and origin of the Faeroe–Shetland sill complex	241
FITCH, F. J., HEARD, G. L. & MILLER, J. A. Basaltic magmatism of late Cretaceous and Palaeogene age recorded in wells NNE of the Shetlands	253
MORTON, A. C., EVANS, D., HARLAND, R., KING, C. & RITCHIE, D. K. Volcanic ash in a cored borehole W of the Shetland Islands: evidence for Selandian (late Palaeocene) volcanism in the Faeroes region	263
STOKER, M. S., MORTON, A. C., EVANS, D., HUGHES, M. J., HARLAND, R. & GRAHAM, D. K. Early Tertiary basalts and tuffaceous sandstones from the Hebrides Shelf and Wyville–Thomson Ridge, NE Atlantic	271
WOOD, M. V., HALL, J. & DOODY, J. J. Distribution of early Tertiary lavas in the NE Rockall Trough	283
MORTON, A. C., DIXON, J. E., FITTON, J. G., MACINTYRE, R. M., SMYTHE, D. K. & TAYLOR, P. N. Early Tertiary volcanic rocks in Well 163/6-1A, Rockall Trough	293
TATE, M. P. & DOBSON, M. R. Syn- and post-rift igneous activity in the Porcupine Seabight Basin and adjacent continental margin W of Ireland	309
<b>British Tertiary Igneous Province</b>	
MUSSETT, A. E., DAGLEY, P. & SKELHORN, R. R. Time and duration of activity in the British Tertiary Igneous Province	337
MEIGHAN, I. G., McCORMICK, A. G., GIBSON, D., GAMBLE, J. A. & GRAHAM, I. J. Rb-Sr isotopic determinations and the timing of Tertiary central complex magmatism in NE Ireland	349
O'CONNOR, P. J. Strontium isotope geochemistry of Tertiary igneous rocks, NE Ireland (extended abstract)	361
BELL, B. R. & EMELEUS, C. H. A review of the silicic pyroclastic rocks in the British Tertiary Volcanic Province	365
ENGLAND, R. W. The early Tertiary stress regime in NW Britain: evidence from the patterns of volcanic activity	381
BÉDARD, J. H., SPARKS, R. S. J., RENNER, R., HUNTER, R. & CHEADLE, M. A re-evaluation of the origin and nature of layered peridotite, troctolite and gabbro in the Eastern Layered Series of the Rhum ultrabasic complex, Inner Hebrides (extended abstract)	391
<b>The North Sea Sedimentary Record</b>	
NIELSEN, O. B. & HEILMANN-CLAUSEN, C. Palaeogene volcanism: the sedimentary record in Denmark	395

*Contents*

vii

KNOX, R. W. O'B. & MORTON, A. C. The record of early Tertiary N Atlantic volcanism in sediments of the North Sea Basin	407
NØTTVEDT, A., BERGLUND, L. T., RASMUSSEN, E. & STEEL, R. J. Some aspects of Tertiary tectonics and sedimentation along the western Barents Shelf	421
<b>Review of Igneous Activity</b>	
UPTON, B. G. J. History of Tertiary igneous activity in the N Atlantic borderlands	429
Index	455