

Contents

Introduction DAWSON, J.B., CARSWELL, D.A., HALL, J. & WEDEPOHL, K.H..	vii
MEISSNER, R. Twenty years of deep seismic reflection profiling in Germany—a contribution to our knowledge of the nature of the lower Variscan crust	1
MATTHEWS, D.H. Seismic reflections from the lower crust around Britain	11
SMITHSON, S.B. A physical model of the lower continental crust from North America based on seismic reflection data	23
HAAK, V. & HUTTON, R. Electrical resistivity in continental lower crust	35
HALL, J. The physical properties of layered rocks in deep continental crust	51
CHAPMAN, D.S. Thermal gradients in the continental crust	63
DEWEY, J.F. Diversity in the lower continental crust	71
KUSZNIR, N.J. & PARK, R.G. Continental lithosphere strength: the critical role of lower crustal deformation	79
WEBER, K. Metamorphism and crustal rheology—implications for the structural development of the continental crust during prograde metamorphism	95
MURRELL, S.A.F. The role of deformation, heat and thermal processes in the formation of the lower continental crust	107
FUCHS, K. Intraplate seismicity induced by stress concentration at crustal heterogeneities—the Hohenzollern Graben, a case history	119
LAMBECK, K. Crustal structure and evolution of the central Australian basins	133
KAY, R.M. & KAY, S.M. Petrology and geochemistry of the lower continental crust: an overview	147
TOURET, J. Fluid inclusions in rocks from the lower continental crust	161
TAYLOR, S.R. & MCLENNAN, S.M. The chemical composition of the Archaean crust	173
RUDNICK, R.L. & TAYLOR, S.R. Geochemical constraints on the origin of Archaean tonalitic-trondhjemitic rocks and implications for lower crustal composition	179
CARSWELL, D.A. & CUTHBERT, S.J. Eclogite facies metamorphism in the lower continental crust	193
MOORBATH, S. & TAYLOR P.N. Geochronology and related isotope geochemistry of high-grade metamorphic rocks from the lower continental crust	211
WINDLEY, B.F. & TARNEY, J. The structural evolution of the lower crust of orogenic belts, present and past	221
PIN, C. & SILLS, J.D. Petrogenesis of layered gabbros and ultramafic rocks from Val Sesia, the Ivrea Zone, northwest Italy: trace element and isotope geochemistry	231
ROBERTSON, S. Evolution of the late Archaean lower continental crust in southern West Greenland	251
SCHIÖTTE, L., BRIDGWATER, D., COLLERSON, K.D., NUTMAN, A.P. & RYAN, A.B. Chemical and isotopic effects of late Archaean high-grade metamorphism and granite injection on early Archaean gneisses, Saglek-Hebron, northern Labrador	261
SHAW, D.M., CRAMER, J.J., HIGGINS, M.D. & TRUSCOTT, M.G. Composition of the Canadian Precambrian shield and the continental crust of the earth	275
RAITH, M. & RAASE, P. High grade metamorphism in the granulite belt of Finnish Lapland	283
NEWTON, R.C. & HANSEN, E.C. South India–Sri Lanka high grade terrain as a possible deep-crust section	297
STOSCH, H.-G., LUGMAIR, G.W. & SECK, H.A. Geochemistry of granulite-facies lower crustal xenoliths: implications for the geological history of the lower continental crust below the Eifel, West Germany	309
DOWNES, H. & LEYRELOUP, A. Granulitic xenoliths from the French Massif Central—petrology, Sr and Nd isotope systematics and model age estimates	319
BROADHURST, J.R. Mineral reactions in xenoliths from the Colorado Plateau; implications for lower crustal conditions and fluid composition	331
VAN CALSTEREN, P.W.C., HARRIS, N.B.W., HAWKESWORTH, C.J., MENZIES, M.A. & ROGERS, N.W. Xenoliths from southern Africa: perspective on the lower crust	351
GRIFFIN, W.L. & O'REILLY, S.Y. The lower crust in eastern Australia: xenolith evidence	363
Subject index	375