Number 3

Dissolution of calcite in the deep-sea: theoretical prediction for the case of uniform size particles settling into a well-mixed sediment  
Robin S. Keir 193

Thermodynamic and kinetic constraints on reaction rates among minerals and aqueous solutions. I. Theoretical considerations  
Per Aagaard and Harold C. Helgeson 237

Unary and binary multisystems: topologic classification of phase diagrams and relation to Euler's theorem on polyhedra  
E. H. Roseboom, Jr., and E-an Zen 286

P–T–X(CO$_2$) conditions of contact metamorphism in the Black Butte aureole, Elkhorn, Montana  
John R. Bowman and Eric J. Essene 311

Early and middle Proterozoic supracrustal successions and their tectonic settings .................................................. Kent C. Condie 341

Emplacement history and tectonic significance of the Cortlandt complex, related plutons, and dike swarms in the Taconide Zone of southeastern New York based on K–Ar and Rb–Sr investigations  
Nicholas M. Ratcliffe, Richard Lee Armstrong, Douglas G. Mose, Ronald Seneschal, Neil Williams, and Matthew J. Baiamonte 358

Uranium-lead isotope age of the Old Rag Granite, northern Virginia  
Michael T. Lukert 391