

American Journal of Science

MARCH 2011

CONTENTS

- The thermodynamic ladder in geomicrobiology
*Craig M. Bethke, Robert A. Sanford, Matthew F. Kirk, Qusheng Jin,
and Theodore M. Flynn* 183
- Mineral replacement reactions in solid solution-aqueous solution systems:
Volume changes, reactions paths and end-points using the example of
model salt systems
Kilian Pollok, Christine V. Putnis, and Andrew Putnis 211
- SIMS zircon U-Pb geochronology and Sr-Nd isotopes of Ni-Cu-Bearing Mafic-
Ultramafic Intrusions in Eastern Tianshan and Beishan in correlation with
flood basalts in Tarim Basin (NW China): Constraints on a *ca.* 280 Ma
mantle plume
*Ke-zhang Qin, Ben-xun Su, Patrick Asamoah Sakyi, Dong-mei Tang, Xian-hua Li,
He Sun, Qing-hua Xiao, and Ping-ping Liu* 237