CONTENTS TO VOLUME 290

NUMBER 1

Syndepositional origin of potash evaporites: petrographic and fluid inclusion evidence
Tim K. Lowenstein and Ronald J. Spencer 1

The roles of rifting and hydrothermal CaCl₂ brines in the origin of potash evaporites: an hypothesis ..........Lawrence A. Hardie 43

REVIEW

Heinrich D. Holland 107
## CONTENTS

**NUMBER 2**

Sedimentology and tectonic implications of ophiolite-derived clastics overlying the Jurassic Coast Range Ophiolite, northern California........................................A. H. F. Robertson 109

Solid-solution aqueous-solution equilibria: thermodynamic theory and representation......Pierre D. Glynn and Eric J. Reardon 164

### COMMENT

Interpretation of K-Ar mineral dates from the Greenville orogenic belt.....Michael A. Cosca, John F. Sutter, and Eric J. Essene 202

Reply................................................................................................................. 205
Number 3

Stable isotopic systematics of the Bushveld Complex: II. Constraints on hydrothermal processes in layered intrusions
Craig M. Schiffrics and Danny M. Rye

A mathematical model for manganese diagenesis in bioturbated sediments...
Yves Gratton, Harry M. Edenborn, Norman Silverberg, and Bjorn Sundby

Ab-initio quantum mechanical calculations of water-rock interactions: adsorption and hydrolysis reactions...
Antonio C. Lasaga and G. V. Gibbs

On the thermodynamic framework of solutions (with special reference to aqueous electrolyte solutions)....Thomas J. Wolery
Number 4

Fold-and-thrust belts in sedimentary rocks. Part 1: Typical examples .................................................................John Rodgers 321

Devonian plants from southern Quebec and northern New Hampshire and the age of the Connecticut Valley trough
Francis M. Hueber, Wallace A. Bothner, Norman L. Hatch, Jr.,
Stanley C. Finney, and John N. Aleinikoff 360

Isotopic geochemistry of a mid-Proterozoic evaporite basin: Balmat, New York .................Joseph F. Whelan, Robert O. Rye,
William deLorraine, and Hiroshi Ohmoto 396

Contact metamorphism and partial melting of pelitic rocks in the Aureole of the Laramie Anorthosite Complex, Morton Pass, Wyoming ..................James A. Grant and B. Ronald Frost 425
Geochemical self-organization. III: A mechano-chemical model of metamorphic differentiation.................. *Thomas Dewers and Peter Ortoleva* 473

U-Pb geochronologic constraints on the origin of a unique monazite-xenotime gneiss, Hudson Highlands, New York
*John N. Aleinikoff and Richard I. Grauch* 522

Relative importance of factors influencing fluvial soil loss at the global scale.................................. *Jonathan D. Phillips* 547

Morphometric assessment of lithologic controls on drainage basin evolution in the Crawford Upland, south central Indiana
*Jerry R. Miller, Dale F. Ritter, and R. Craig Kochel* 569
Number 6

Dissolution of recent platform carbonate sediments in marine pore fluids ..................Lynn M. Walter and Elizabeth A. Burton 601

Conduction model for the thermal evolution of the Cupsuptic aureole, Maine................James R. Bowers, Derrill M. Kerrick, and Kevin P. Furlong 644

Multivariable phase diagrams: an algorithm based on generalized thermodynamics.............................................J.A.D. Connolly 666

Phase chemographies in Quaternary systems of seven phases, I: the five convex polytopes..........................James H. Stout 719

Errata................................................................................................................Grant Garven 739
Number 7

Dolomitization front geometry, fluid flow patterns, and the origin of massive dolomite: the Triassic Latemar buildup, northern Italy..........................*Edith Newton Wilson, Lawrence A. Hardie, and Owen M. Phillips* 741

Kaolinite dissolution at 25°, 60°, and 80°C............*Susan A. Carroll and John V. Walther* 797

The Ropes Creek assemblage: petrology, geochemistry, and tectonic setting of an ophiolitic thrust sheet in the southern Appalachians...............*Terry L. Spell and Gregory T. Norrell* 811

COMMENT

Framboidal pyrite: early-diagenetic, late diagenetic, and hydrothermal occurrences from the Acton Vale Quarry, Cambro-Ordovician, Quebec ............................................*Charles S. Spirakis* 843

Reply..................................................*G.P. Sassano and K. Schrijver* 847

REVIEW

Observations and Interpretations of Hawaiian Volcanism and Seismicity, 1779–1955; by Thomas L. Wright and Takeo Jane Takahashi....................................................*Brian J. Skinner* 852
Number 8

Exhumation of high pressure pelitic schist, Lake Murray spillway, South Carolina: evidence for crustal extension during Alleghanian strike-slip faulting. .................. Arthur W. Snoke and B. Ronald Frost 853


Fluid inclusion evidence for P-V-T-X evolution of hydrothermal solutions in Late-Alpine gold-quartz veins at Brusson, Val D'Ayas, northwest Italian Alps .................. Larryn W. Diamond 912

Evidence for a major Middle Proterozoic, post-Grenvillian igneous event in western New England .................. Paul Karabinos and John N. Aleinikoff 959
CONTENTS

NUMBER 9

Carbon isotope shifts in Pennsylvanian seas.....Mordechai Magaritz and William T. Holser 977

Mineral-fluid interactions in the Broadlands-Ohaaki geothermal system, New Zealand .....Steven W. Lonker, John D. Fitz Gerald, Jeffry W. Hedenquist, and John L. Walshe 995

Estimating ancient sediment fluxes..................Christopher N. Wold and William W. Hay 1069

REVIEW

The Origin of Species Revisited: The Theories of Evolution and of Abrupt Appearance (2 v.); by W.R. Bird..........K. J. Hsiü 1090
Number 10


Controls on C/S ratios in hemipelagic upwelling sediments  
John W. Morse and Kay C. Emeis 1117

$^{40}\text{Ar}/^{39}\text{Ar}$ polyorogenic mineral age record within the southern Mauritanide orogen (M’Bout-Bakel region) West Africa 
R.D. Dallmeyer and J.P. Lecorche 1136

Timing and characteristics of Paleozoic deformation and metamorphism in the Alabama Inner Piedmont 
Steven A. Goldberg and Mark G. Steltenpohl 1169

REVIEW

The Great Dying; by Kenneth Hsü ......... Steven Stanley 1201

Index to Volume 290 ................................................................. 1203

Contents to Volume 290 ................................................................. iii