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## LETTERS

**2142** Previously unknown mineral-nanomineral relationships with important environmental consequences: The case of chromium release from dissolving silicate minerals  
Michael Schindler, Debora Berti, and Michael F. Hochella Jr.

**2146** Protoenstatite: A new mineral in Oregon sunstones with “watermelon” colors  
Huifang Xu, Tina R. Hill, Hiromi Konishi, and Gabriela Farfan

## HIGHLIGHTS AND BREAKTHROUGHS

**1969** Making a fine-scale ruler for oxide inclusions  
Dongzhou Zhang

## SPECIAL COLLECTION: BIOMATERIALS—MINERALOGY MEETS MEDICINE

**1971** Substitution of sulfate in apatite  
Linh K. Tran, Kathleen R. Stepien, Melissa M. Bollmeyer, and Claude H. Yoder

## ACTINIDES IN GEOLOGY, ENERGY, AND THE ENVIRONMENT

**1977** Thermodynamic characterization of synthetic autunite  
Ewa A. Dzik, Haylie L. Lobeck, Lei Zhang, and Peter C. Burns

## SPECIAL COLLECTION: APATITE: A COMMON MINERAL, UNCOMMONLY VERSATILE

**1981** The crystal structure of turneaureite,  $\text{Ca}_5(\text{AsO}_4)_3\text{Cl}$ , the arsenate analog of chlorapatite, and its relationships with the arsenate apatites johnbaumite and svabite  
Cristian Biagioni, Ferdinando Bosti, Ulf Hålenius, and Marco Pasero

## SPECIAL COLLECTION: FROM MAGMAS TO ORE DEPOSITS

**1987** Cu-Mo partitioning between felsic melts and saline-aqueous fluids as a function of  $X_{\text{NaCl}}^{\text{Cleq}}$ ,  $f_{\text{O}_2}$ , and  $f_{\text{S}_2}$   
Brian C. Tattitch and Jon D. Blundy

## SPECIAL COLLECTION: DYNAMICS OF MAGMATIC PROCESSES

**2007** Continuous mush disaggregation during the long-lasting Laki fissure eruption, Iceland  
David A. Neave, Iris Buisman, and John MacLennan

## ARTICLES

**2022** A new hydrothermal moissanite cell apparatus for optical in-situ observations at high pressure and high temperature, with applications to bubble nucleation in silicate melts  
Matteo Masotta and Hans Keppler

**2032** Experimental and thermodynamic investigations on the stability of  $\text{Mg}_{14}\text{Si}_5\text{O}_{24}$  anhydrous phase B with relevance to  $\text{Mg}_2\text{SiO}_4$  forsterite, wadsleyite, and ringwoodite  
Hiroshi Kojitani, Saki Terata, Maki Ohsawa, Daisuke Mori, Yoshiyuki Inaguma, and Masaki Akaogi

**2045** Model for the origin, ascent, and eruption of lunar picritic magmas  
Malcolm J. Rutherford, James W. Head, Alberto E. Saal, Erik Hauri, and Lionel Wilson

**2054** Phase relations of Fe-Mg spinels including new high-pressure post-spinel phases and implications for natural samples  
Laura Uenver-Thiele, Alan B. Woodland, Tiziana Boffa Ballaran, Nobuyoshi Miyajima, and Dan J. Frost

**2065** A Raman calibration for the quantification of  $\text{SO}_4^{2-}$  groups dissolved in silicate glasses: Application to natural melt inclusions  
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**2077** The system fayalite-albite-anorthite and the syenite problem  
S.A. Morse and J.B. Brady

**2084** Kiglapait mineralogy V: Feldspars in a hot, dry magma  
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**2096** Orientation of exsolution lamellae in mantle xenolith pyroxenes and implications for calculating exsolution pressures  
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**2106** Spin state and electronic environment of iron in basaltic glass in the lower mantle  
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**2113** A shallow origin of so-called ultrahigh-pressure chromitites, based on single-crystal X-ray structure analysis of the high-pressure  $\text{Mg}_2\text{Cr}_2\text{O}_5$  phase, with modified ludwigite-type structure  
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**2119** Biologically mediated crystallization of buddingtonite in the Paleoproterozoic: Organic-igneous interactions from the Volyn pegmatite, Ukraine  
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**2136** Mengxianminite  $(\text{Ca}_2\text{Sn}_2\text{Mg}_3\text{Al}_6[(\text{BO}_3)(\text{BeO}_4)\text{O}_6]_2)$  a new borate mineral from Xianghualing skarn, Hunan Province, China, with a highly unusual chemical combination (B + Be + Sn)  
Rao Can, Frédéric Hatert, Fabrice Dal Bo, Rucheng Wang, Xiangping Gu, and Maxime Baijot

**2150** BOOK REVIEW



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