



ABOUT THE COVER:

ultrahard cubic form

mineral requiring a

Diamond, the

of carbon, is a

long string of

superlatives to

properties, its

commercial

technological and

importance, and its

roots into human

culture and our

physical world.

Pictured is the

Minton diamond

octahedron (7 mm

across) in kimberlite

PHOTO BY DENIS FINNIN,

COURTESY OF AMERICAN

NATURAL HISTORY.

from the De Beers

Mine, Kimberley,

South Africa.

MUSEUM OF

describe its

Volume 1, Number 2 • March 2005

Elements is published jointly by the Mineralogical Society of Great Britain and Ireland, the Mineralogical Association of Canada, the Geochemical Society, The Clay Minerals Society, the European Association for Geochemistry, the International Association of GeoChemistry, and the Mineralogical Society of America. It is provided as a benefit to members of these societies.

Elements will be published three more times in 2005. Individuals are encouraged to join any one of the participating societies to receive Elements. Institutional subscribers to any of the following journals - American Mineralogist, The Canadian Mineralogist, Clays and Clay Minerals - will also receive Elements as part of their subscription. Institutional subscriptions are available for US\$100 a year. Contact the managing editor for information

Copyright ©2005 by the Mineralogical Society of America

All rights reserved. Reproduction in any form, including translation to other languages, or by any means - graphic, electronic or mechanical, including photocopying or information storage and retrieval systems – without written permission from the copyright holder is strictly prohibited.

Publications mail agreement no. 40037944

Return undeliverable Canadian addresses to: PO Box 503 **RPO West Beaver Creek** Richmond Hill ON L4B 4R6

Printed in Canada ISSN 1811-5209 www.elementsmagazine.org



















Diamonds

George E. Harlow and Rondi M. Davies Guest Editors



Inclusions in Sublithospheric Diamonds: Glimpses of Deep Earth

Thomas Stachel, Gerhard P. Brey, and Jeffrey W. Harris



Stable Isotopes and the Origin of Diamond Pierre Cartigny



Strange Diamonds: The Mysterious Origins of Carbonado and Framesite

Peter J. Heaney, Edward P. Vicenzi, and Subarnarekha De



Microdiamonds in Ultrahigh-Pressure **Metamorphic Rocks**

Yoshihide Ogasawara



Meteoritic Nanodiamonds: Messengers from the Stars Gary R. Huss



High-Pressure and High-Temperature Treatment of Gem Diamonds James E. Shigley



Growing Diamond Crystals by Chemical Vapor Deposition

Russell J. Hemley, Yu-Chun Chen, and Chih-Shiue Yan

Departments

Editorial
Letters to the Editors 60
Triple Point
Highlight Paul Ribbe
Conference Reports
Meet the Authors
People in the News
Reviews
Society News
European Association for Geochemistry 110
International Association of GeoChemistry 112
The Clay Minerals Society
Mineralogical Association of Canada
Mineralogical Society of Great Britain and Ireland 118
Geochemical Society
Mineralogical Society of America
International News
Advertisers in this Issue
Mineral Matters
Calendar
Voilà
Darting Shot 129