

1. Record Nr.	UNINA9910819776603321
Titolo	Carbon in earth / / editors, Robert M. Hazen, Adrian P. Jones, and John A. Baross
Pubbl/distr/stampa	Chantilly, Virginia ; ; St. Louis City, Missouri : , : Mineralogical Society of America : , : Geochemical Society, , 2013
ISBN	1-5015-0831-8
Descrizione fisica	1 online resource (xv, 698 pages) : illustrations
Collana	Reviews in Mineralogy and Geochemistry ; ; Volume 75
Disciplina	577.144
Soggetti	Carbon cycle (Biogeochemistry)
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Frontmatter -- Reviews -- PREFACE -- TABLE OF CONTENTS -- 1. Why Deep Carbon? / Hazen, Robert M. / Schiffries, Craig M. -- 2. Carbon Mineralogy and Crystal Chemistry / Hazen, Robert M. / Downs, Robert T. / Jones, Adrian P. / Kah, Linda -- 3. Structure, Bonding, and Mineralogy of Carbon at Extreme Conditions / Oganov, Artem R. / Hemley, Russell J. / Hazen, Robert M. / Jones, Adrian P. -- 4. Carbon Mineral Evolution / Hazen, Robert M. / Downs, Robert T. / Kah, Linda / Sverjensky, Dimitri -- 5. The Chemistry of Carbon in Aqueous Fluids at Crustal and Upper-Mantle Conditions: Experimental and Theoretical Constraints / Manning, Craig E. / Shock, Everett L. / Sverjensky, Dimitri A. -- 6. Primordial Origins of Earth's Carbon / Marty, Bernard / Alexander, Conel M. O'D. / Raymond, Sean N. -- 7. Ingassing, Storage, and Outgassing of Terrestrial Carbon through Geologic Time / Dasgupta, Rajdeep -- 8. Carbon in the Core: Its Influence on the Properties of Core and Mantle / Wood, Bernard J. / Li, Jie / Shahar, Anat -- 9. Carbon in Silicate Melts / Ni, Huawei / Keppler, Hans -- 10. Carbonate Melts and Carbonatites / Jones, Adrian P. / Genge, Matthew / Carmody, Laura -- 11. Deep Carbon Emissions from Volcanoes / Burton, Michael R. / Sawyer, Georgina M. / Granieri, Domenico -- 12. Diamonds and the Geology of Mantle Carbon / Shirey, Steven B. / Cartigny, Pierre / Frost, Daniel J. / Keshav, Shantanu / Nestola, Fabrizio / Nimis, Paolo / Pearson, D. Graham / Sobolev, Nikolai V. / Walter, Michael J. -- 13. Nanoprobes for Deep Carbon / Mao, Wendy L. /

Boulard, Eglantine -- 14. On the Origins of Deep Hydrocarbons / Sephton, Mark A. / Hazen, Robert M. -- 15. Laboratory Simulations of Abiotic Hydrocarbon Formation in Earth's Deep Subsurface / McCollom, Thomas M. -- 16. Hydrocarbon Behavior at Nanoscale Interfaces / Cole, David R. / Ok, Salim / Striolo, Alberto / Phan, Anh -- 17. Nature and Extent of the Deep Biosphere / Colwell, Frederick S. / D'Hondt, Steven -- 18. Serpentinization, Carbon, and Deep Life / Schrenk, Matthew O. / Brazelton, William J. / Lang, Susan Q. -- 19. High-Pressure Biochemistry and Biophysics / Meersman, Filip / Daniel, Isabelle / Bartlett, Douglas H. / Winter, Roland / Hazaël, Rachael / McMillan, Paul F. -- 20. The Deep Viriosphere: Assessing the Viral Impact on Microbial Community Dynamics in the Deep Subsurface / Anderson, Rika E. / Brazelton, William J. / Baross, John A. -- INDEX

Sommario/riassunto

Volume 75 of *Reviews in Mineralogy and Geochemistry* addresses a range of questions that were articulated in May 2008 at the First Deep Carbon Cycle Workshop in Washington, DC. At that meeting 110 scientists from a dozen countries set forth the state of knowledge about Earth's carbon. They also debated the key opportunities and top objectives facing the community. Subsequent deep carbon meetings in Beijing, China (2010), Novosibirsk, Russia (2011), and Washington, DC (2012), as well as more than a dozen smaller workshops, expanded and refined the DCO's decadal goals. The 20 chapters that follow elaborate on those opportunities and objectives.
