1.	Record Nr.	UNINA9910437955503321
	Titolo	Reading the Archive of Earth's Oxygenation : Volume 3: Global Events and the Fennoscandian Arctic Russia - Drilling Early Earth Project / / edited by Victor Melezhik, Anthony R. Prave, Eero J. Hanski, Anthony E. Fallick, Aivo Lepland, Lee R. Kump, Harald Strauss
	Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 2013
	ISBN	9781283640534 1283640538 9783642296703 364229670X
	Edizione	[1st ed. 2013.]
	Descrizione fisica	1 online resource (520 p.)
	Collana	Frontiers in Earth Sciences, , 1863-463X
	Altri autori (Persone)	MelezhikVictor A KumpLee R
	Disciplina	551.72
	Soggetti	Geology Ecology Physical geography Environmental Sciences Earth System Sciences
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Note generali	Description based upon print version of record.
	Nota di bibliografia	Includes bibliographical references.
	Nota di contenuto	Part VII Earth's Oxygenation and Associated Global Events:The FAR-DEEP Perspective -- Part VIII The Great Oxidation Event: State of the Art and Major 433 Unresolved Problems -- Part IX FAR-DEEP Core Archive: Future Opportunities for Geoscience Research and Education.
	Sommario/riassunto	Earth's present-day environments are the outcome of a 4.5 billion year period of evolution reflecting the interaction of global-scale geological and biological processes. Punctuating that evolution were several extraordinary events and episodes that perturbed the entire Earth system and led to the creation of new environmental conditions, sometimes even to fundamental changes in how planet Earth operated. Volume 3: Global Events and the Fennoscandian Arctic Russia - Drilling Earth Project represents another kind of illustrated journey through the

early Palaeoproterozoic, provided by syntheses, reviews and summaries of the current state of our understanding of a series of global events that resulted in a fundamental change of the Earth System from an anoxic to an oxic state. The book discusses traces of life, possible causes for the Huronian-age glaciations, addresses radical changes in carbon, sulphur and phosphorus cycles during the Palaeoproterozoic, and provides a comprehensive description and a rich photo-documentation of the early Palaeoproterozoic supergiant, petrified oil-field. Terrestrial environments are characterised through a critical review of available data on weathered and calichified surfaces and travertine deposits. Potential implementation of Ca, Mg, Sr, Fe, Mo, U and Re-Os isotope systems for deciphering Palaeoproterozoic seawater chemistry and a change in the redox-state of water and sedimentary columns are discussed. The volume considers in detail the definition of the oxic atmosphere, possible causes for the oxygen rise, and considers the oxidation of terrestrial environment not as a single event, but a slow-motion process lasting over hundreds of millions of years. Finally, the book provides a roadmap as to how the FAR-DEEP cores may facilitate future interesting science and provide a new foundation for education in earth-science community. Welcome to the illustrative journey through one of the most exciting periods ofplanet Earth!