

THIS ISSUE

Iron is one of the most abundant elements in the Earth's crust, an element essential to many forms of life, and a material civilizations have used for thousands of years to fashion tools and arms. In assembling this issue, Guest Editors Kevin Taylor and Kurt Konhauser have focused on the role of iron in Earth surface environments, past and present, and particularly on how iron minerals in sediments can be used as proxies for the composition of ancient oceans. Indeed, for an abundant element that at first glance seems mundane, iron has enormous potential as a tracer of Earth evolution.

BREAKING NEWS

On March 11, a horrified world watched the images of devastation following the earthquake and tsunami that struck the northeast coast of Japan. Since then, we have all admired the resilience and courage of the Japanese people amid the destruction. We continue to watch daily the events unfolding at the Fukushima nuclear power station in the aftermath of the tsunami.

As the focus in Japan moved towards the multi-tiered crises at the nuclear power reactors, we recognized that there was a dearth of accessible information available particularly concerning the spent fuel in the cooling ponds. *Elements* has helped to fill this void. The Nuclear Fuel Cycle issue we published in 2006 (volume 2, number 6) was made freely available through our website (www.elementsmagazine.org) and on GeoScienceWorld (www.elements.geoscienceworld.org). Announcements were made to our members, who forwarded the information far and wide: to press and media outlets, to our sister organizations, and to policy makers.

As a follow-up to the events in Japan, our inaugural "Breaking News" article, by Rod Ewing, who was guest editor of the Nuclear Fuel Cycle issue, covers the situation at Fukushima as of late March (see pages 77 and 78 of this issue).

To our Japanese colleagues, we at *Elements* extend our heartfelt thoughts in this time of crisis.

THANKS DAVID

David Vaughan has been a big supporter of *Elements*, starting from the moment he heard about the magazine concept from Rod Ewing. In the very early days of *Elements*, while David was on the Advisory Board, he volunteered to organize an issue on arsenic, for which he was guest editor (volume 2, number 2). The Arsenic issue is our second most heavily cited number and is a popular teaching tool in environmental science. His introductory article for that issue is a perfect example of what we hope all lead articles for *Elements* will be like. When invited to join the editorial team, he did not hesitate. He has now completed his term as principal editor, and we thank him for his enthusiasm and judgment on behalf of *Elements*. During his term, he was in charge of the following issues: Nanogeoscience, Gems, Mineral Magnetism, Mineral Evolution, Atmospheric Particles, and Iron in Earth Surface Systems. In his editorials, he has encouraged the Earth science community to be center stage in the ongoing debates in several issues the world is currently facing.

Pierrette Tremblay
Managing Editor

LIFE IN UREY'S LAB

Congratulations on one of the most informative, interesting, and germane issues of *Elements* (Cosmochemistry; volume 7, number 1): it invoked a lot of memories. In the early 1960s I worked for Harold Urey in La Jolla at Scripps Institute right after he moved to California from Chicago. I was a lab assistant (actually a lab rat) for several years between 1959 and 1969 as I worked my way through high school and then college, first as a chemist and later as a programmer. Urey's work on meteorites and terrestrial rocks made his lab seem like the sphere of a Van de Graaff generator. I went to most of the seminars he and his colleagues presented and to several parties given for and by him; it was the most exciting time of my life. I experienced many ways to do science and learned a great deal. Urey was involved in designing and building from scratch a mass spectrometer (that machine ended up at the U. of Minnesota), which was used for several years. This instrument and the neutron activation analysis technique were used to measure the ratios of various isotopes. It was the NAA that got me interested in learning about computers since I did most of the calculations manually on a "Monroe-matic" (a beast with more moving parts than you could shake a stick at), and it took forever. Scripps had taken delivery of a CDC-1604, and when I walked into the computer room (security was of no concern back then), with all its blue glass and aluminum, it was love at first sight. I asked the operator how I could use this amazing machine, and he gave me three manuals, pointed to a key punch, explained how to load my cards into the reader, and said, "Good luck"; I had to teach myself FORTRAN. That was in 1964. I just retired last month from my career as a computer programmer, but I have kept my interest in all the other fields that were useful back in the days with Urey. As a member of the Geochemical Society (which is how I get *Elements*), your magazine has helped me inexpensively keep abreast of new ideas on the origin of the Solar System. Thanks for a great publication!

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OXIDE MINERALS AND THE COSMOS

May I thank you and your authors for the excellent edition of *Elements* on Cosmochemistry. I have been reviewing the main oxide minerals (for Deer, Howie and Zussman, volume 5a, to be published shortly) and I found the developments in extraterrestrial mineralogy to be among the most interesting new facets of oxide mineralogy. Periclase, corundum, rutile, perovskite, hematite, ilmenite, armalcolite (of course), spinel, magnetite, maghemite, ulvöspinel and chromite have all been recorded from beyond the Earth, and isotopic studies of these minerals have provided evidence about presolar history, the age of the Solar System, and the development of the planets and asteroids. This is a remarkable achievement, the ultimate in "distance learning." I have read your articles from beginning to end with great interest and look forward to reading them again. It is important to inform mineralogists of the way in which mineralogy is applied in other disciplines. Your issue of *Elements* provides a concise description of the place of mineralogy in cosmochemistry and will serve as an introductory text for students and researchers alike.

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