



# Mineralogical Society of the UK and Ireland

[www.minersoc.org](http://www.minersoc.org)

## EUROPEAN MINERALOGICAL CONFERENCE

This is last issue of *Elements* that will land on your desk before the fourth EMC takes place in Dublin in late August. At the time of writing, the first draft of the programme has been published at [www.emc-2024.org](http://www.emc-2024.org). We have 330+ oral presentations and almost 200 poster presentations: a mineralogical bonanza! It might still be possible to register. Check the website.



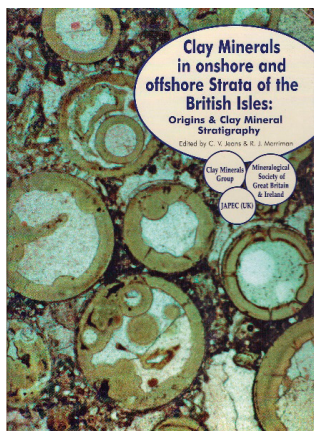
## INTERNATIONAL CLAY CONFERENCE

As soon as we have finished our work on EMC, we will begin to see ICC in the distance. This is another international conference, the organization for which is led by Steve Hillier (Hutton Institute, Aberdeen) and supported by Mineralogical Society staff Russell Rajendra and Kevin Murphy. Check out the latest at <https://icc.aipea.org/>. Clay mineralogists, put this meeting in your diary—it's not to be missed!



## A COVER STORY

Around 214 million years ago, towards the end of the Triassic period, an asteroid 5 km wide struck the Laurentian Shield of southeastern Quebec, Canada. It created a crater originally 60 km wide, which is now the site of Lake Manicouagan. Ejecta from the impact were widely distributed over the Late Triassic sandstones and mudstones that blanketed the shield and also, at that time, adjacent Palaeozoic strata on the western margins of Europe. The ejecta included glassy spherules, melt-rich and fragment-rich accreted grain clusters, together with shocked mineral grains. Much of this was reworked and deposited with Triassic strata. Following the progressive opening of the Atlantic Ocean, beginning in the Cretaceous, some of the reworked ejecta became widely separated from the source. Initially described as a glauconitic oolite layer, Manicouagan ejecta were recently identified in the disused Churchwood Quarry, near Wickwar in Gloucestershire, UK (McGregor et al. 2024). This recent work shows that the spherical, clay-filled grains were originally bubbles of silicate melt ejected into the atmosphere where they were quenched to form



glass spheres. After deposition and prolonged contact with fluids in wet sediments, the glass devitrified and was slowly replaced by Fe-rich clay minerals that preserved the original spherical structures.

In 2006, a suitable cover image was being sought for a Mineralogical Society book, 'Clay Minerals in Onshore and Offshore Strata of the British Isles: Origins and Clay Mineral Stratigraphy'. A photomicrograph of the green, spherical grains, supplied by Kirkham (2003), was eventually chosen for both the colour and clarity of the clay pseudomorphs. We had no idea at that time of the distant provenance and the spectacular origin of the spherules.

Copies of this book continue to be available through the Mineralogical Society online shop with a link from [www.minersoc.org](http://www.minersoc.org).

**C.V. Jeans and R.J. Merriman**  
Guest Editors

Kirkham A (2003) Glauconitic spherules from the Triassic of the Bristol Area, probable microtektite pseudomorphs. *Proceedings of the Geologists Association* 114: 11-22, doi: 10.1016/S0016-7878(03)80025-1

McGregor M, Spray JG, McFarlane RM (2024) Provenance constraints on the Late Triassic ejecta layer from Churchwood Quarry, SW England: an impactite suite from Manicouagan. *Meteoritics & Planetary Science*: 1-26, doi: 10.1111/maps.14172

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The Mineralogical Society, in conjunction with Cambridge University Press, publishes three scientific journals. In the lists below, we thank the editorial teams for their service to our journals, to our Society, and to our community.

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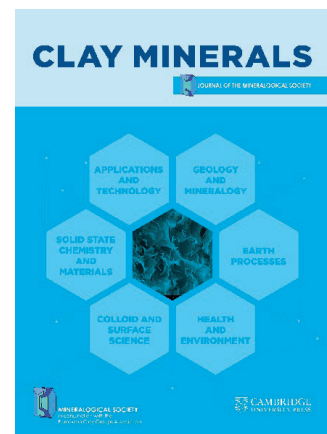
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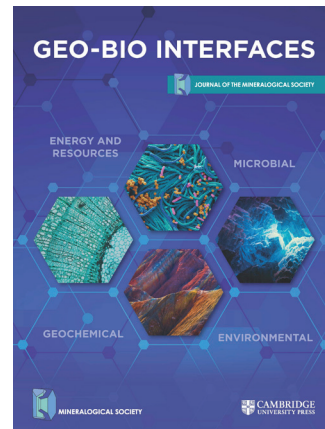
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The next book in the EMU Notes in Mineralogy series will soon be ready.

This is an open access volume with all content available at <https://www.minersoc.org/emu-notes-21.html>. Hard copies will also be available from the online shop linked from the website, priced at £55 for institutions and £40 for individuals.

