

Geochemistry

EXPLORATION, ENVIRONMENT,
ANALYSIS

Editor: **K. Kyser**, Queen's University, Ottawa, Canada (e-mail: kyserk@queensu.ca)

Associate Editors: **M. Leybourne** (GNS Science, New Zealand), **J. Carranza** (James Cook University, Australia)

Production Editor: **Jessica Pollitt**, Geological Society Publishing House, Bath, UK (e-mail: jessica.pollitt@geolsoc.org.uk)

The journal is abstracted and/or indexed in *AGI's Bibliography and Index of Geology*, *Chemical Abstracts*, *Current Contents*, *Engineering Index*, *GEOBASE*, *GeoRef*, *Mineralogical Abstracts*, *PASCAL/CNRS*, *GeoArchive*, *Thomson ISI database (SCIE, CC/PC & ES)*

CONTENTS - Volume 15, No. 4

- | | | | |
|--|-----|--|-----|
| TEM study on particles transported by ascending gas flow in the Kaxiutata iron deposit, Inner Mongolia, North China
D. Dai, J. Cao, P. Lai & Z. Wu | 255 | Glacial dispersal of gahnite from the Izok Lake Zn-Cu-Pb-Ag VMS deposit, northern Canada
M. B. McClenaghan, R. C. Paulen, D. Layton-Matthews, A. K. Hicken & S. A. Averill | 333 |
| The effect of ore roasting on arsenic oxidation state and solid phase speciation in gold mine tailings
S. R. Walker, H. E. Jamieson, A. Lanzirotti, G. E. M. Hall & R. C. Peterson | 273 | El Niño–La Niña cycles and biogeochemical sampling: variability of element concentrations within <i>E. camaldulensis</i> leaves in semi-arid Australia
C. Mitchell, S. M. Hill, D. Giles & K. Hulme | 350 |
| Recent Lithuanian peri-urban ombrotrophic bog records: indices derived from the contents of lead, zinc, copper and nickel
R. Zinkutė, I. Baužienė, K. Dilys, J. Mažeika, J. Taminskas & R. Taraškevičius | 293 | Soil geochemical survey of abandoned mining sites in the Eastern-Central Peloritani Mountains, Sicily, Italy
A. Cosenza, A. Lima, R. A. Ayuso, N. K. Foley, S. Albanese, A. Messina & B. D. Vivo | 361 |
| <i>Marinobacter</i> bacteria associated with a massive sulphide ore deposit affect metal mobility in the deep subsurface
K. Leslie, A. Sturm, R. Stotler, C. J. Oates, T. K. Kyser & D. A. Fowle | 319 | Characteristics and geological significance of particles on fractures from the Dongshengmiao polymetallic pyrite deposit, Inner Mongolia, China
G. Hu, J.-J. Cao, P.-X. Lai, P. K. Hopke, R. F. Holub, J.-N. Zeng, Z.-H. Wang & Z.-Q. Wu | 373 |
| Measurement of $^{238}\text{U}/^{235}\text{U}$ ratio in black spruce seedlings to fingerprint the source of uranium taken up by black spruce trees as a biogeochemical sampling medium
P. K. Nyade, D. H. C. Wilton, G. M. Thompson & H. P. Longerich | 327 | | |

Geochemistry: Exploration, Environment, Analysis (ISSN 1467-7873) is published in February, May, August and November by the Geological Society Publishing House the Geological Society, London and the Association of Applied Geochemists.

Subscription rates 2015 (volume 14, 4 parts): All correspondence relating to trade subscriptions should be addressed to the Journal Subscriptions Department, Geological Society Publishing House, Unit 7, Brassmill Enterprise Centre, Brassmill Lane, Bath, UK, BA1 3JN (Tel: +44 (0) 1225 445046; Fax: +44 (0) 1225 442836; e-mail: sales@geolsoc.org.uk). The subscription prices for 2015 to institutions and non-fellows are GEEA Online: £284.40 +VAT (UK), £268 (overseas) or GEEA Online+print: £327.55 +VAT (UK), £315 (overseas). The current tax rates (for UK and European Union subscribers) and more information can be found on <http://www.geolsoc.org.uk/LyellCollection>.

Periodical postage paid at Middlesex, N.J. *Postmaster:* send address changes to *Geochemistry: Exploration, Environment, Analysis*. The Geological Society, c/o Pronto Mailers, PO Box 177, Middlesex, NJ 08846.

©2015 The Geological Society of London and AAG. Except as otherwise permitted under the Copyright, Designs and Patents Acts, 1988, this publication may only be reproduced, stored or transmitted, in any form or by any means, with the prior permission in writing of the Publishers or in the case of reprographic reproduction in accordance with the terms of licences issued by the Copyright Licensing Agency Ltd, Saffron House, 6–10 Kirby Street, London EC1N 8TS, UK. Enquiries concerning reproduction outside these terms should be sent to the Publishers at the Bath address. Users registered with the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923, USA: The item-fee code for this journal is 1467-7873/15/\$15.00.

The Geological Society and AAG make no representation, express or implied, with regard to the accuracy of the information contained in this publication and cannot accept any legal responsibility for any errors or omissions that may be made.

Cover illustration: Miocene white quartz gravels at the foot of Mount St. Bathans in central Otago, New Zealand that were exposed during placer gold mining operations in the late 1800s. When placer mining ceased in the 1930s, the man-made depression was allowed to fill in and Blue Lake was formed. Credit: Beth McClenaghan.