



Association of Applied Geochemists

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UPDATE ON GEOCHEMISTRY: EXPLORATION, ENVIRONMENT, ANALYSIS



Kurt Kyser, Editor-in-Chief, *GEEA*

Geochemistry: Environment, Exploration, Analysis (GEEA) is a publication of the Geological Society of London (GSL) and the Association of Applied Geochemists (AAG). *GEEA* is a journal specifically aimed at applied geochemists, and its success can be attributed in large part to the efforts of its founder and Editor-in-Chief for its initial 15 years, Gwendy Hall, who meticulously built its reputation as a premier source of integrated exploration, analytical, and environmental science. *GEEA* focuses on mineral exploration (using geochemistry, geoanalysis, technique development) and on environmental issues associated with anthropogenic activities, mining and source apportionment. *GEEA* is distinct from all other journals in that *GEEA* papers should reflect the integration of analysis with exploration and environmental science. Including an analytical section is an implicit and integral part of the paper because it addresses both how the numbers were generated and what they mean. These aspects make *GEEA* a unique journal in the spectrum of pure and applied geochemistry.

Several recent events have potential impacts for exploration and environmental geochemistry, both of which have been negatively influenced by the downturn in the resource industries. During the latter part of 2016, activities by investors and large mining companies in many metal commodities increased, signaling that perhaps the downturn in the metals market had finally reached bottom and was slowly reversing. Although many of the signals that recovery is occurring are still mixed, there is guarded optimism. This will benefit *GEEA* as industry continues its environmental stewardship and comes to rely on the results that *GEEA* publishes. In addition, several new multidisciplinary initiatives in mineral exploration involving researchers, industries and governments in Australia and Canada have recently been launched because there has been paucity in exploration success. These initiatives will rely on results already published and to be published in *GEEA*. The next generation of explorationists will be trained as part of these initiatives, which is one of the target audiences for *GEEA*.

In response to the increasing number of papers focused on environmental issues during the downturn, we have added a new Co-Editor-in-Chief, **Benedetto De Vivo**, who will share many of the duties of the existing editor in terms of handling papers, developing thematic issues, assuring that the journal is functioning properly and that it has the appropriate direction. Benedetto has had an illustrious career and brings an unrivalled experience in applied geochemistry with him. He graduated in Geological Sciences at the University of Napoli Federico II (Italy) in 1971 and worked for five years as a consultant for exploration and environmental companies operating in Italy, Africa and Central America. He has been a Professor in Applied Geochemistry at University of Napoli Federico II since 1987. He was a member of the Editorial Board of *Geochemistry: Exploration, Environment, Analysis*, a member of the Editorial Board of *Mineralogy and Petrology* and Associate Editor of *American Mineralogist*. He was Chief Editor of *Journal of Geochemical Exploration* for 10 years. He has been a member of different Expert Government Committees for base-metal mining research activities and for the remediation of industrial sites in Italy. His research interests include geochemical prospecting, fluid inclusion studies, and environmental geochemistry. He has published over 250 papers in international journals, is the author



Benedetto De Vivo, Co-Editor-in-Chief, *GEEA*

of seven text books (in Italian) on geochemical prospecting and environmental geochemistry, 31 monographs (in Italian and English) and 30 educational papers. In addition to being a professor in the Dipartimento di Scienze della Terra, dell'Ambiente e delle Risorse-DiSTAR Università di Napoli Federico II, he is an adjunct professor in the Department of Geosciences at Virginia Tech (USA) and at Nanjing University (China). We welcome Benedetto to *GEEA* as Co-Editor-in-Chief and look forward to his contributions.

To increase the turnaround rates of articles for *GEEA* and enhance the expertise for the journal, the Board of Editors has been revised, and their roles in *GEEA* clarified not only as a body of reviewers but also as overseers of the direction and quality of the journal. Some of the members of the board became associate editors (AEs), whose membership was enhanced from two AEs, plus three special editors, to a total of 19 AEs. This was done to enhance subject areas of *GEEA* where there were large numbers of submitted papers and to widen the coverage of editorial expertise. The list of new AEs and board members and their expertise will be published in both *Elements* and *GEEA*. Both the AAG and GSL welcome the timely enhancement of the staff of *GEEA* and look forward to disseminating research results in applied geochemistry.

RECENT ARTICLE PUBLISHED IN EXPLORE

The following is an abstract for an article that appeared in issue 174 of the *Explore* newsletter (March 2017).

“The use of automated indicator mineral analysis in the search for mineralization – A next generation drift prospecting tool”

Derek H.C. Wilton¹, Gary M. Thompson² and David C. Grant³

Mineral search techniques using indicator minerals have proven effective for exploration in glaciated terrains, and the examination of indicator minerals has become a standard mineral exploration technique in till-covered regions of Canada. These traditional techniques are based on the visual identification of a pre-defined set of minerals in heavy mineral concentrates (HMCs) derived from surficial sediments collected in regional surveys. As such, the approach provides semi-quantitative, subjective, empirical observations of minerals in a surficial sediment. Aside from gold, definitive mineral identification requires subsequent mounting of the minerals of interest and analysis by electron microprobe (EMP).

We describe a newly developed analytical technique using a scanning electron microscope–mineral liberation analyser (SEM–MLA), which provides a quantitative analytical approach to indicator minerals analysis. The SEM–MLA method is a significant addition to the indicator mineral toolbox because it allows for the identification of single grains of indicator minerals, of indicator minerals grains which are preserved in surficial sediment as inclusions in more resistive species, of intergrowths of several mineral species indicative of specific mineralizing reactions, and of the tracing and definition of erosional source material. The technique is more time and cost efficient than traditional techniques.

The full article can be viewed at: <https://www.appliedgeochemists.org/index.php/publications/explore-newsletter>

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