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International Association of Geoanalysts

CERTIFIED REFERENCE MATERIALS DEVELOPMENT PROGRAMME



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As current head of the IAG's Certification Committee I would like to highlight our activities to the broader geochemical community, and *Elements* provides an excellent forum for doing exactly this. The history of our programme to develop new reference materials (RMs) got going in 2002 when the IAG established a committee devoted to the production of Certified Reference Materials (CRMs). The long-term goal of this initiative was to produce geologic RMs of the highest metrological standard which would be distributed to the global analytical community. Obviously, if all labora-

tories used the same calibration materials – be they rock powders for bulk analyses or glass and mineral samples for microanalytical work – and if their compositions were very well characterized, then the integration of results reported by multiple labs would become much more meaningful. Gone would be the days when each lab needed to rely on the quality of its own “in-house standards.”

From the very beginning this IAG initiative has striven to comply with the guidelines set out by the International Standards Organization (ISO). Thus, before setting out to produce and characterize new rock powders, it was mandatory for the IAG to define a formal protocol for the certification of new RMs. Under the leadership of Jean Kane, the Certification Committee's first chairperson, such a protocol was published in *Geostandards Newsletter* in 2003. This publication outlined the procedure that the IAG would follow during the production, characterization and follow-on testing of the products it certifies; as such it is the most closely ISO-compliant protocol existing for RMs used for geoanalytical work. Then, in 2004, the IAG was granted official liaison status on ISO's Committee on Reference Materials (ISO-REMCO), thereby giving the analytical geochemist a voice in the world of reference materials alongside other institutions such as the IAEA and UNESCO.

With a protocol in place, the next step was to assess its functionality under real-world conditions. The decision was made to evaluate the protocol using the OU-6 slate, which had been distributed in one of IAG's earlier bulk powder proficiency testing rounds. This test was largely successful, and the results, in the form of a Certificate of Analysis for OU-6, were published in *Geostandards* in 2005. This first project also identified a number of practical issues related to the protocol, resulting in an update to the protocol, which is currently being prepared for publication.

The IAG's Certification Committee has now turned its attention to the routine production of new CRMs, with the goal of releasing a new material every 12 to 18 months. Initially, we will develop rock powders for which our committee has identified a need in industry or basic research. Furthermore, the IAG is supporting other reference material producers

in offering our services for the production of samples which carry an IAG Certificate of Analysis. So please watch for the release of our next CRM, scheduled for 2008: a harzburgite powder with certified concentrations for

platinum-group and many other trace elements.

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REFERENCE MATERIAL MARKETING

Having developed a capability of producing new CRMs, the IAG needed to establish a mechanism for distributing the new materials. To fill this gap the IAG Governing Council voted in September 2004 to create a not-for-profit company, fully owned by the IAG, which was established under British law. And so IAGeo Ltd. came into being.

As one might suppose, formally registering a company and addressing such issues as obtaining a VAT registration number took some time. It was not until late 2006 that a web presence was launched at www.IAGeo.com. Since then it has been possible for analysts to order 40 g packets of the IAG's first Certified Reference Material: the OU-6 Penrhyn Slate. This rock powder has certified abundances for 10 major and 35 trace elements and, in view of the low uncertainties quoted for these values, represents one of the best characterized silicate rock samples in existence. In the coming months the IAG also intends to start marketing material that remains from earlier rounds of its GeoPT proficiency testing programme. Though not of the same high metrological standard as OU-6, these materials may prove useful to labs wishing to establish new analytical techniques or needing material for general data quality assessment. We invite geochemists to periodically visit the IAGeo website to see what new material is on offer.



WWW.IAGEO.COM

IAG's philosophy is to use income generated by IAGeo, a not-for-profit company, to fund the production and certification of new reference materials while keeping the cost to the user as low as

possible. Although it is expected that the data for future certifications will be donated by top analytical labs, substantial costs are nonetheless associated with such work. With contamination-free milling, blending and packaging of samples, and holding meetings of the IAG Certification Committee, the costs of producing a single CRM are significant. Analysts who place an order with IAGeo can rest assured that their purchase will contribute towards ongoing RM development.

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