Association of Applied Geochemists

www.appliedgeochemists.org

FROM THE PRESIDENT

It's been a couple of issues since my last message, and since that time we at the Association of Applied Geochemists (AAG) have been busy collating responses from our current and past member surveys and finding out what you want to see in the AAG of tomorrow. More on this will be presented in our *Explore* newsletter and later messages. One thing that struck me about the survey results was that while the economic changes in mineral exploration have hit hard over the past few years, and we have many members that are active in mineral exploration, the general demographics of our membership, the research focus, employment sector, and countries of origin have not changed. Unfortunately, the gender and age demographic has also not changed. We are still vastly underrepresented by females (15%) and the under-40s (19%). Improved gender, cultural, and age representation is vital to the health of our association. I believe that broader representation means better representation, and this is something that the AAG will develop over the next decade.

I expect the AAG is not alone in this membership bias. From an Australian perspective, there has been significant political and media attention around science, technology, engineering and mathematics (STEM) education for all, with the goal of seeing less biased representation in future science employment. It is an ongoing challenge to ensure that underrepresented groups are supported when going into science careers. In my view, our working times and places continue to become more flexible with improved mobile technologies—sometimes to our detriment with emails/deadlines at all times of the day—but I hope the positive of this change is that it may allow those that have to be more flexible for various reasons to create the ability to sustain and build their careers.

With the clear age difference in our member demographics, I am committed to getting more students into the AAG. ***Student membership is only $10*** and includes our journal, *Geochemistry: Exploration, Environment, Analysis*, our newsletter, *Explore*, and a number of student-focused awards and programs, including one for analytical support. At $10, just get on board: it's cheaper than two pints at the university tavern. And in Perth, Australia, it's the price of one!

While the AAG membership may be underrepresented in some regions of the world, our members certainly work and deliver research impact in all parts of the globe, and it is great that we have Regional Councillors who are able to provide an AAG point of contact to many of these areas of active geochemical research. We plan to highlight these individuals in an upcoming issue because they continue to work hard for the benefit of the AAG.

Ryan Noble, President

RECENT ARTICLE PUBLISHED IN *EXPLORE*

The following is an abstract for an article that appeared in issue 172 of the *Explore* newsletter.

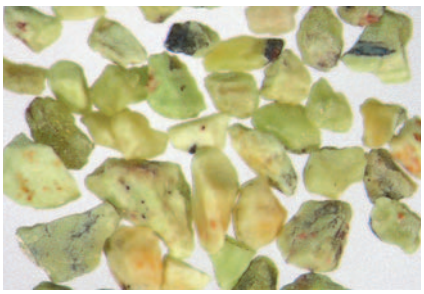
"Basic Indicator Mineral Math: Why Visual Analysis of the Entire Heavy Mineral Fraction of Large Sediment Samples is Required on Indicator Mineral Exploration Programs in Glaciated Terrains"

Stuart A. Averill[1] and Remy G. Huneault[2]

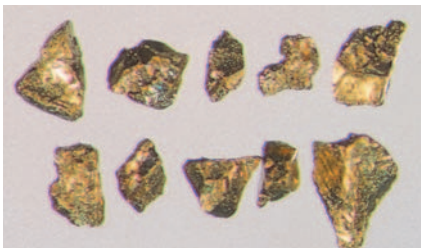
Till indicator mineralogy has proven to be very effective in Canada for exploring glaciated terrains for a wide variety of mineral deposits. Its effectiveness is due primarily to its ability to detect overburden-covered mineral deposits from afar with widely spaced samples by targeting the long but very weak tails of the glacial dispersal trains that emanate from these deposits. The requisite high sensitivity is obtained by: (a) collecting large samples; and (b) employing a sample treatment method that provides a very low detection limit of one grain per sample for each targeted indicator mineral. Only minerals having a specific gravity >3.2 are normally targeted because they can be concentrated by gravity means. However, the commonly used 250–500 µm grain size fraction of the concentrate has an average weight of 20 g, contains ~220,000 individual mineral grains and must be examined *in full*.

Two methods are currently available for identifying and counting the indicator mineral grains: (1) traditional visual examination of the concentrates by binocular microscope; and (2) automated SEM analysis using specialized software programs such as MLA® and QEMSCAN®. In this article it is shown that automated analysis can be beneficial but its capacity to obtain meaningful indicator mineral data is presently constrained because the block on which the grains are mounted for analysis can accommodate only a small fraction – typically <1% – of the mineral grains that are present in a typical till concentrate. In exploring glaciated terrains, therefore, automated mineral analysis is a useful complement to, but not a replacement for, visual analysis.

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



Chromium andradite in the 0.25–0.5 mm grain size fraction in till down-ice from the Lac des Iles Intrusive Complex in Ontario (Canada).



Chalcopyrite grains in the 0.25–0.5 mm grain size fraction from till in Ontario (Canada).

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