THE ASSOCIATION OF EXPLORATION GEOCHEMISTS

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NEWSLETTER

NO. 35

MARCH 1981

A MESSAGE FROM THE PRESIDENT

A discipline even newer than exploration geochemistry is environmental geochemistry. The latter field is of increasing importance because of mounting concern with disposal of nuclear wastes and, in the U.S., the recent comprehensive regulations governing disposal of toxic chemical wastes. Environmental and exploration geochemistry are closely related in many ways, and I believe, both would benefit by exchanges of ideas and information.

Both disciplines deal with dispersion of chemical components through earth materials away from a source. Experience in exploration geochemistry should be of value in identifying the processes and controls of metal dispersion from man-made sources. Conversely, the known time-frame and the limited volume of the source of many pollutants supply information not always available for ore bodies and other natural sources.

Background values are of prime importance in detecting and monitoring dispersion in both disciplines. The extensive worldwide surveys of exploration geochemistry furnish an unparallelled source of background data useful in environmental problems, whereas recent carefully designed surveys oriented environmentally, such as the USGS studies in Missouri and their nationwide reconnaissance surveys of soils, waters, and vegetation, allow a comparison of background values not available in exploration surveys. Background values and their regional variation are also of crucial significance in recognizing regional variations that may be related to health, as well as to mineral provinces.

Analytical methods of the two disciplines overlap. Methods for determination of many of the less common elements, such as Se and Cd, have been developed and used widely in environmental research and deserve attention by exploration geochemists.

A major focus of environmental geochemistry is to predict the dispersion of elements from a pollution source. For this reason, mathematical modeling of dispersion is, and will probably continue to be, widely used in environmetal sutdies. This modeling demands a quantitative understanding of flow, solubility, adsorption, and other phenomena that should prove useful in geochemical exploration.

Journals covering environmental geochemistry include Environmental Science and Technology (American Chemical Society) and Science of the Total Environment. For example, Environmental Science and Technology for 1980 includes papers on adsorption of Cu, Pb, and As on iron oxides, complexing and adsorption on humates, and resorption of trace metals during partial extraction procedures, Another interesting publication is Interface, the newsletter of the Society for Environmental Health and Geochemistry (U.S.). I find the $6/year membership in this society well worthwhile. Perhaps members from other countries can suggest other useful journals in environmental geochemistry.

I believe we have much to learn by cross-fertilization with related disciplines and encourage you to let me know of opportunities along this line.

See you in Vancouver!

Arthur W. Rose

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A MEMBERS' VIEWS IN THE CANADIAN PRESS

Every March brings mineral explorationists to the Annual Convention of the Prospectors and Developers Association at the Royal York Hotel in Toronto. This year was no exception with a registration of over 2000. The afternoon of the first day saw Ian Thomson, a member and our Treasurer, and Tony Barringer, another member, but weaving his geophysical hat, together with R.W. Hutchinson and C.G. Miller as panellists in the Plenary Session entitled, "Exploration Technology: Can it Meet the Mineral Demand?". The session was well attended and included Lawrence Welsh a reporter for the Toronto Globe and Mail, Canada's closest approximation to a national paper. His report was published in the Business Section, page 5, on Wednesday, March 11th, and is reproduced below in full. Clearly, the points which Thomson and Hutchinson made re the supply and training of economic geologists and geochemists were picked up. In light of discussions in the Newsletter on university courses this article is all the more relevant, and hopefully influential.