

Geochemical Exploration 1974

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Volume 3, numéro 2, may 1976

URI : https://id.erudit.org/iderudit/geocan03_02rv01

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Éditeur(s)

The Geological Association of Canada

ISSN

0315-0941 (imprimé)
unknown (numérique)

[Découvrir la revue](#)

Citer ce compte rendu

Bradshaw, P. M. (1976). Compte rendu de [Geochemical Exploration 1974]. *Geoscience Canada*, 3(2), 131–131.

Book Reviews

Geochemical Exploration - 1974

Edited by I. L. Elliot and W. K. Fletcher
Elsevier Scientific Publishing Co.,
720 p., 1975.
Dfl 150 (\$62.50 U.S.) (available in
hardback only).

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This volume contains all the papers presented at the Fifth International Geochemical Exploration Symposium held in Vancouver, April 1974, and is divided into eight sections: 1) General Technical Session (7 papers), 2) Application of Statistical Techniques (7 papers), 3) Primary Dispersion I (7 papers), 4) Primary Dispersion II (3 papers), 5) Exploration in a Lateritic Terrain (4 papers), 6) Exploration in Hot Desert and Tropical Terrain (6 papers), 7) Exploration in Glaciated Terrain (6 papers), 8) Analytical Geochemistry (5 papers).

The volume also contains a welcoming address by Dr. D. H. McLaren of the Geological Survey, and a keynote address entitled "Environmental Problems of the Exploration Geochemist" by Prof. J. S. Webb of Imperial College, London. The latter contains examples from the regional geochemical maps of England and Wales, which constitutes the backbone of the "Geochemical Atlas" for those countries.

There are a total of 15 papers containing data collected within Canada. Of these, probably the most interesting are two involving the distribution of metals in lake sediments

as related to mineralization, and two involving the sampling of basal or lodgement till (as opposed to surface soil) in areas of transported overburden to determine the location of mineral deposits.

The 10 papers on primary dispersion provide some valuable data in this rapidly expanding field. To date primary dispersion (or bedrock geochemistry) has been very largely ignored by exploration geologists in favour of sediment and soil analyses. With advancement in the knowledge of the dispersion characteristics of trace and major metals in bedrock, this field is rapidly expanding in its use to mineral exploration. While there is still a large gap in our knowledge of primary dispersion, compared with secondary dispersion, the 10 papers in this volume provide some much needed data.

There also exists, within geochemical exploration, quite a large gap between those people undertaking exploration and those employing statistical methods. Taken as a whole, the statistical section of this volume has not done much to narrow this gap, although several individual examples provide valuable examples for exploration geologists not statistically oriented.

The analytical section contains several papers of direct interest to practising exploration geochemists, particularly on: controlling service laboratories by submitting standard samples; correct treatment of samples for gold assay (often a very critical procedure); and background data on six United States Geological Survey standard samples.

All the papers are on original work and the majority are of either a reasonable or high standard, although several should probably not have been printed in a volume such as this.

The volume as a whole is of an extremely high standard, the reproduction is excellent and the layout is good. It is, however, an extremely expensive volume and is probably only worth purchasing for those people involved directly in geochemical exploration or research related to this field.

MS received January 22, 1976.