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Drift Exploration in Glaciated Terrain

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Preface

This special publication is a compilation of papers presented at the Drift Exploration in Glaciated Terrain Short Course held in conjunction with the 19th International Geochemical Exploration Symposium in Vancouver, British Columbia, Canada in April, 1999. The short course was sponsored by the Association of Exploration Geochemists.

The volume focuses on the application of till geochemical and indicator mineral methods to mineral exploration in the glaciated terrain of Canada. The principles and examples described, however, have direct applications for explorationists working in glaciated parts of North America, northern Europe and Asia, as well as mountainous regions of South America. Mineral exploration in glaciated terrain requires an appreciation and understanding of glacial processes, surficial sediments, glacial history, and soil formation in addition to economic geology. The following papers address these issues and are organized to lead the reader from the general to the specific.

The first half of the volume is an introduction to glaciated terrain. Sampling techniques are described, followed by reviews of indicator mineral methods used for diamond, gold, and base-metal exploration. Lake sediment and biogeochemical methods are included to com-

plement geochemical and indicator mineral methods. A paper describing the application of GIS methods to till geochemical data has also been included, reflecting the importance of data interpretation and display as essential parts of regional geochemical surveys. The second half of the volume consists of a series of case studies addressing each of the three major glaciated terrains of Canada: flat lying Shield terrain of central and northern Canada, rugged mountainous terrain of the western Canadian Cordillera and the rounded mountains of Appalachia on the east coast.

The editors wish to acknowledge their appreciation of the many hours the authors have devoted to preparing presentations for the short course and to modifying the course notes for subsequent publication in this special publication. The editors would also like to thank the following dedicated colleagues for their comprehensive and thoughtful reviews of the manuscripts: A. Brooks, J. J. Clague, L. Clark, W. B. Coker, A. Dixon-Warren, M. Fedikow, M. Fenton, J. Franklin, P. Friske, E. Grunsky, S. M. Hamilton, L. Hulbert, L. Jackson, B. Janse, R. Lett, A. A. Levinson, V. Levson, E. Nielsen, R. C. Paulen, A. Plouffe, T. Pronk, B. Schreiner, S. Sibbick, R. R. Stea, P. Taufen, I. Thomson, L. H. Thorleifson, B. C. Ward and S. Williams.