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Ministry of Energy, Mines  
and Petroleum Resources

MINERAL RESOURCES DIVISION  
Geological Survey Branch

# GEOLOGICAL FIELDWORK 1991

*A Summary of Field Activities  
and Current Research*

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## PREFACE

The 1991 edition of *Geological Fieldwork: A Summary of Field Activities and Current Research* is the seventeenth in this annual publication series. It contains reports on activities and project results in a year in which the Geological Survey Branch underwent a substantial reorganization in order to better serve the needs of an increasingly broad-based client group. The base budget of the Branch for the 1991/92 fiscal year was \$7.45 million, a modest increase over the previous year. An additional \$505 000 was allocated for economic development projects as B.C.'s share of an anticipated renewed Canada-British Columbia Partnership Agreement on Mineral Development (MDA-2).

The diversity of the Branch's current programs is reflected in the highlights of this year's volume which include:

- Reports on four 1:50 000-scale geological mapping programs, two in the Stikine district of northwestern British Columbia and two in the northern Quesnel trough, both areas of strong exploration activity for alkalic porphyry copper-gold deposits.
- Reports on mineral potential studies of candidate parks in the Babine Mountains, Cascade and Kakwa recreation areas carried out at the request of the Ministry of Environment, Lands and Parks, in accordance with the requirements of Section 19 of the *Mineral Tenure Act*.
- Reports covering work in the wind-up year of studies of the metallogenesis of the Rossland mining camp and of skarn deposits throughout the province, and the initiation of a new project to study deposits transitional between the porphyry and epithermal environments.
- The expanding role of the Branch's Environmental Geology Section is reflected in papers covering such diverse topics as: the on-going Regional Geochemical Survey program; geological hazards in the Peace River district; the study of neotectonics on Vancouver Island, with particular reference to the evaluation of potential seismic risks; geochemical prospecting techniques applicable to areas thickly mantled by Quaternary deposits with complex stratigraphy; the Quaternary geology of gold placers in the Atlin district; and construction aggregate resources in the Sooke area of southern Vancouver Island.
- Progress reports ongoing studies of the quality of British Columbia coals and potential coal bed-methane resources.
- A report on the magnesite resources of southeastern British Columbia.
- A progress report on the application of digital geographical information systems (GIS) to assessment of mineral resource potential and land-use planning.
- A new section that includes nine papers reporting on the results of research by the Mineral Deposit Research Unit (MDRU) at The University of British Columbia on the metallogenesis of the Skutumpah River area and related topics.

The continued success of the British Columbia Geoscience Research Grant Program and cooperative projects with the Geological Survey of Canada is evidenced by the inclusion of sixteen papers by external authors, in addition to the nine papers submitted by the MDRU. Topics covered include: the results of ongoing research on the metallogenesis of the Silver Queen vein deposits at Owen Lake; paleomagnetism and its implications in unravelling the tectonic history of the Cordillera; the mineralogy of the footwall alteration zone beneath the Sullivan orebody; and other petrographic, mineralogical geochemical and structural geology studies at a number of locations throughout the province.

This volume of *Fieldwork* contains 58 papers, an increase of more than 27 per cent over last year but fifteen short of the record established by the 1989 edition. As always, meeting the January publication deadline demands a concerted and unstinting effort from our editorial and publications staff. We acknowledge the efforts of Doreen Fehr, Janet Holland and Shannon Ferguson for formatting and page layout, John Newell for timely editing, and Brian Grant for managing the entire process and plugging any holes that appeared. This is the tenth edition that Doreen Fehr has worked on and she has carried a particularly heavy load this year as her colleague, Janet Holland, was hospitalized quite early in the process. We also thank the staff of the Queen's Printer for their cheerful cooperation and enthusiasm, without which everyone else's efforts would be largely in vain.

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