



# **GEOSCIENCE BC SUMMARY OF ACTIVITIES 2010**



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**Cover photo:** Thomas Bissig examining a hand sample near the Mount Milligan deposit, central British Columbia.

**Photo credit:** Dianne Mitchinson, Mineral Deposit Research Unit, The University of British Columbia, 2009.

## Foreword

Geoscience BC is pleased to present the results of ongoing and recently completed geoscience projects and surveys in this, our fourth edition of the *Geoscience BC Summary of Activities*. The volume is divided into two sections, and contains a total of 25 papers. Industry consultants and contractors, university-based researchers and government geoscientists working on Geoscience BC-funded projects prepared most of the papers.

Geoscience BC launched two new major projects in 2010: the Porphyry Integration Project and the Montney Water Project. The Porphyry Integration Project, which aims to pull together existing geological, geochemical and geophysical datasets for select BC porphyry districts, is described by Devine in the first paper. The Montney Water Project, which is focused on increasing knowledge of surface water, near-surface water and deep aquifers in the northeastern BC Montney shale gas play, is described by Hayes et al. and Brown in the first two papers of the oil and gas section. Stay tuned to Geoscience BC's website for more details on these projects as they become available.

In addition to the three papers mentioned above, this volume contains 14 minerals and 8 oil and gas papers from Geoscience BC-supported partnership projects. The papers range from introductions to new projects that are just underway through ongoing project updates to final project reports. In each section, the papers are organized roughly by location, to enable the reader to quickly identify papers of interest.

Readers are encouraged to visit the website for additional information on all Geoscience BC-funded projects, including project abstracts, posters and presentations, previous *Summary of Activities* or *Geological Fieldwork* papers, and final datasets. All papers in this and past volumes are available for download through Geoscience BC's website ([www.geosciencebc.com](http://www.geosciencebc.com)).

### Geoscience BC Publications 2010

In addition to this *Summary of Activities* volume, Geoscience BC releases interim and final products from our projects as Geoscience BC Reports as they become available. All Geoscience BC data and reports can be accessed through our website at [www.geosciencebc.com/s/DataReleases.asp](http://www.geosciencebc.com/s/DataReleases.asp). Geoscience BC datasets and reports released in 2010 include the following:

25 technical papers in the *Geoscience BC Summary of Activities 2009* volume

***Distribution of the Chilcotin Group, Taseko Lakes and Bonaparte Lake map areas, British Columbia***, by J. Dohaney, G.D.M. Andrews, J.K. Russell and R.G. Anderson (Geoscience BC Map 2010-2-1 / GSC Open File 6344)

***An Assessment of Soil Geochemical Methods for Detecting Copper-Gold Porphyry Mineralization through Quaternary Glaciofluvial Sediments at the Kwanika Central Zone, North-Central British Columbia (NTS 93N)***, by D.R. Heberlein and H. Samson (Geoscience BC Report 2010-3)

***QUEST-South Project Sample Reanalysis***, by W. Jackaman (Geoscience BC Report 2010-4)

***Bedrock Geology of the QUEST map area, central British Columbia***, by J.M. Logan, P. Schiarizza, L.C. Struik, C. Barnett, J.L. Nelson, P. Kowalczyk, F. Ferri, M.G. Mihalynuk, M.D. Thomas, P. Gammon, R. Lett, W. Jackaman and T. Ferbey (Geoscience BC Report 2010-5 / BCGS Geoscience Map 2010-01 / GSC Open File 6476)

***Airborne Gravity Survey, QUEST-South, British Columbia – 2009***, by Sander Geophysics Ltd. (Geoscience BC Report 2010-6)

***Geology of the Deer Park Map Sheet (NTS 082E/08)***, by T. Höy and W. Jackaman (Geoscience BC Map 2010-7-1)

***An Assessment of Soil Geochemical Methods for Detecting Copper-Gold Porphyry Mineralization through Quaternary Glaciofluvial Sediments at the WBX-MBX and 66 Zones, Mt. Milligan, North-Central British Columbia***, by D.R. Heberlein (Geoscience BC Report 2010-8)

***QUEST Project Compilation***, by S.P. Williams and F. Ma (Geoscience BC Report 2010-9)

***Till Geochemistry of the Nadina River Map Area (093E/15), West-Central British Columbia***, by T. Ferbey (Geoscience BC Report 2010-10 / BCGS Open File 2010-07)

***Horn River Basin Subsurface Aquifer Project – Phase 1 Data***, by Petrel Robertson Consulting Ltd. (Geoscience BC Report 2010-11)

***QUEST-West Compilation Maps***, by Geoscience BC (Geoscience BC Report 2010-12)

***QUEST-South Regional Geochemical Data, Southern British Columbia***, by W. Jackaman (Geoscience BC Report 2010-13)

***Relative Drift Thickness Map, North-Central British Columbia***, by D.M. Maynard, B.C. Ward, M. Geertsema, N. Roberts and D. Sacco (Geoscience BC Report 2010-14)

***Bedrock Cross-Sections in Chasm Provincial Park***, by R-E. Farrell, J.K. Russell and K.A. Simpson (Geoscience BC Map 2010-15-1 / GSC Open File 6657)

***2-D Land Joint Inversion of Seismic, Magnetotelluric and Gravity for Pre-Stack Depth Migration Imaging***, by Western GeCo MDIC (Geoscience BC Report 2010-16)

All releases of Geoscience BC reports and data are announced through our website and e-mail list. If you are interested in receiving e-mail regarding these reports and other Geoscience BC news, please contact [info@geosciencebc.com](mailto:info@geosciencebc.com).

### Acknowledgments

Geoscience BC would like to thank all authors of the *Summary of Activities* papers, including project proponents, graduate students and Geoscience BC staff, for their contributions to this volume. Geoscience BC would also like to thank RnD Technical for their work in editing and assembling the volume.

Christa Sluggett, M.Sc.  
Project Geologist and Communications Co-ordinator  
Geoscience BC  
[www.geosciencebc.com](http://www.geosciencebc.com)

## Contents

### Minerals Projects

- Devine, F.:** Porphyry Integration Project: combining British Columbia's wealth of datasets with modern exploration geoscience at the district scale to provide new insight into porphyry-deposit exploration strategies. . . . . 1
- Heberlein, D.R. and Dunn, C.E.:** Preliminary results of a vegetation, Ah-horizon soil and charcoal geochemical investigation at the Kwanika Central zone, north-central British Columbia. . . . . 5
- Mitchinson, D.E. and Enkin, R.J.:** Continued investigations of physical property–geology relationships in porphyry-deposit settings in the QUEST and QUEST-West project areas, central British Columbia . . . . . 17
- Norris, J.R., Hart, C.J.R., Tosdal, R.M. and Rees, C.:** Magmatic evolution, mineralization and alteration of the Red Chris copper-gold porphyry deposit, northwestern British Columbia . . . . . 33
- Meuzelaar, T. and Monecke, T.:** Carbonaceous mudstone hosting the Eskay Creek deposit, northwestern British Columbia: multivariate statistical analysis of compositional trends . . . . . 45
- Stumpf, A.J.:** Quaternary geology and till geochemistry of the Bulkley River valley, west-central British Columbia. . . . . 57
- Ferbey, T.:** Quaternary geology and till geochemistry of the Colleymount map area, west-central British Columbia. . . . . 65
- Ward, B.C., Leybourne, M.I. and Sacco, D.:** Drift prospecting within the QUEST Project area, central British Columbia: potential for porphyry copper-gold, volcanogenic massive sulphide mineralization and gold-copper veins . . . . . 73
- Mortensen, J.K., Rhys, D.A. and Ross, K.:** Investigations of orogenic gold deposits in the Cariboo gold district, east-central British Columbia: final report . . . . . 97
- Chapman, R.C. and Mortensen, J.K.:** Characterization of placer- and lode-gold grains as an exploration tool in east-central British Columbia . . . . . 109
- Vaca, S., Bissig, D.E., Mitchinson, S., Barker, S. and Hart, C.J.R.:** Variability in the basaltic rocks hosting copper-gold porphyry mineralization in the Quesnel terrane, south-central British Columbia: geochemistry, stable isotopes and physical properties . . . . . 123
- Mortensen, J.K., Lucas, K., Monger, J.W.H. and Cordey, F.:** Geological investigations of the basement of the Quesnel terrane in southern British Columbia: progress report. . . . . 133
- Paradis, S., Keevil, H., Simandl, G.J. and Raudsepp, M.:** Geology and mineralogy of carbonate-hosted nonsulphide Zn-Pb mineralization in southern and central British Columbia. . . . . 143
- Enkin, R.J., Paradis, S. and Simandl, G.J.:** Physical properties of carbonate-hosted nonsulphide Zn-Pb mineralization in southern and central British Columbia. . . . . 169
- Jackman, W.:** British Columbia Regional Geochemical Survey Program: new analytical data and sample archive upgrades . . . . . 181

### Oil and Gas Projects

- Hayes, B.J.R., Hume, D.W., Webb, G., Costanzo, S., Hopkins, M. and McDonald, D.:** Deep aquifer characterization in support of Montney gas development, northeastern British Columbia: progress report. 189
- Brown, D.A.:** Overview of the Montney Water Project: a new Geoscience BC initiative in northeastern British Columbia. . . . . 195
- Bustin, R.M., Chalmers, G. and Bustin, A.A.M.:** Quantification of the gas-in-place and flow characteristics of tight gas-charged rocks and gas-shale potential in British Columbia . . . . . 201
- Zubin-Stathopoulos, K.D., Dean, G.J., Spratt, D., Beauchamp, B., Spratt, D.A. and Henderson, C.M.:** Tectonic evolution and paleogeography of Pennsylvanian–Permian strata in east-central British Columbia: implications from stratigraphy, fracture analysis and sedimentology. . . . . 209
- Henderson, C.M.:** Biostratigraphic correlation and shale fabric of Lower Triassic strata, east-central British Columbia. . . . . 223
- Golding, M.L., Zonneveld, J-P., Orchard, M.J., Ferri, F. and Mortensen, J.K.:** Stratigraphic correlation and sedimentary provenance of Triassic naturalgas-bearing rocks in northeastern British Columbia: correlation from outcrop to the subsurface . . . . . 229
- Bordet, E. and Hart, C.J.R.:** Characterization and structural framework of Eocene volcanic sequences in the Nechako region, central British Columbia . . . . . 239
- Smithyman, B.R. and Clowes, R.M.:** Improved near-surface velocity models from the Nechako Basin seismic survey, south-central British Columbia, part 2: full-waveform inversion. . . . . 255
- Talinga, D.A. and Calvert, A.J.:** Velocity models from three-dimensional travelttime tomography in the Nechako Basin, south-central British Columbia . . . . . 265
- Farquharson, C.G., Craven, J.A., Hurich, C.A., Spratt, J.E., Welford, J.K. and Pilkington, M.:** Modelling and investigation of airborne electromagnetic data and reprocessing of vibroseis data from the Nechako Basin of south-central British Columbia, guided by magnetotelluric results . . . . . 275

