



MINISTRY OF ENERGY, MINES AND NATURAL GAS

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Regional Geologist Summaries

EXPLORATION AND MINING IN BRITISH COLUMBIA 2012



New 5 Year
Index Included



Ministry of
Energy, Mines
and Natural Gas

Regional Geologist Summaries
EXPLORATION AND MINING
in British Columbia 2012

Ministry of Energy, Mines and Natural Gas
Mines and Mineral Resources Division

Front Cover:

The field camp near Stewart for the Granduc copper project of Castle Resources Inc. Drilling up to late 2012 outlined a resource of 11.32 Mt of 1.39% copper (measured and indicated) at this former producer.

Back Cover:

View looking north of Burnt Ridge South pit highwall at Line Creek Operations, an east Kootenay coal mine operated by Teck Coal Limited.

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FOREWORD

INTRODUCTION

Regional Geologist Summaries, Exploration and Mining in British Columbia 2012 represents the latest annual documentation of the activities of the province's exploration and mining industry. The record goes back to 1874 when the *Annual Report of the Minister of Mines* (Figure 1) first went to print and has evolved through various formats over the years. The volume provides a region-by-region perspective with an in-depth look at significant projects in British

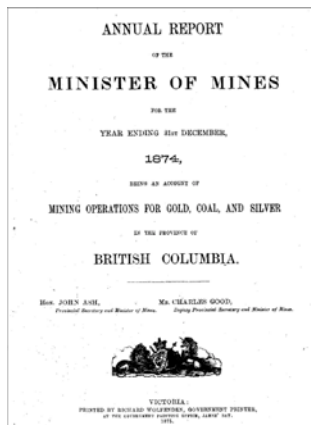


Figure 1. The duty of the collection of information on the province's mining industry goes back to 1874 when the *Annual Report of the Minister of Mines* first went to print.

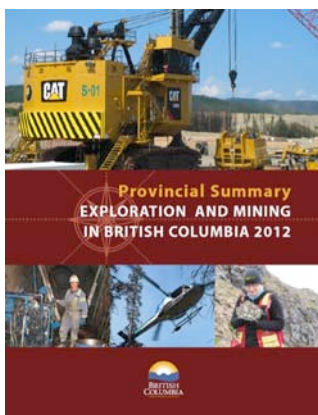


Figure 2. *Provincial Summary, Exploration and Mining in British Columbia 2012* is a companion volume to this publication and provides a more generalized overview of the Province's Mining and Exploration industry.

Columbia. Readers who wish to acquire a general picture of the mining and exploration industry in British Columbia may find the *Provincial Summary, Exploration and Mining in British Columbia 2012* (Figure 2) to be a useful publication. A name change to both documents this year was undertaken to clarify the relationship between them. A trial index of projects contained in the regional summary papers has been prepared. It looks back five years and it intended to add value to the documents by making property searches easier.

Provincial Summary, British Columbia Mines & Mineral Exploration Review 2012 is a companion volume to this publication and provides a more generalized overview of the Province's Mining and Exploration industry. The province's exploration sector for coal, metals and industrial minerals is large and by necessity the reviews and summaries contained in this volume tend to be focused on the larger and/or more advanced projects. To learn about other projects, readers are encouraged to contact the appropriate regional geologist. Contact information is given below.

Readers are also encouraged to use this publication in concert with the online geological databases accessible through the Ministry of Energy, Mines and Natural Gas Internet site (<http://www.empr.gov.bc.ca/Mining/Pages/default.aspx>). The Ministry's well known MapPlace is a gateway to mineral and coal inventories (MINFILE; COALFILE); assessment reports; tenure; geology; geochemistry; and geophysics.

BC's Regional Geologists and the Geological Survey

The Regional Geologists were reassigned to the Ministry of Energy, Mines and Natural Gas this year and welcomed back to the home ministry of the Geological Survey. They are located in Vancouver (Bruce Northcote), Smithers (Jeff Kyba), Kamloops (Jim Britton), Prince George (Paul Jago) and Cranbrook (Dave Grieve) (Figure 3). In early 2013, Dave Grieve will retire after an exemplary career with government where his expertise as a coal geologist benefited industry and government tremendously (Figure 4).

Their role will continue to include providing geological and mineral industry expertise and promotion of mineral exploration and development in the province. As regional subject experts they also support various functions of the natural resource sector agencies in meeting the broader goals of government.

Regional geologists' roles and responsibilities include:

- fostering sustainable exploration, development and use of the province's mineral and coal resources;



Figure 3. The locations of the various regions referred to in this publication and the locations of many of the cities and towns in the province.



Figure 4. Regional Geologist for the Kootenay Region, Dave Grieve, is retiring in early 2013 and set to join the ranks of Emeritus Regional Geologists. Congratulations Dave!

- providing clients with up-to-date technical information and professional advice about known and potential mineral and coal deposits;
- acting a regional contacts for the Geological Survey and pursuing joint project work
- providing geological and mineral resource information to project review or land-use decision-making processes;
- monitoring the status of the mining industry and the development of infrastructure required for mineral resource development;
- working on field projects and surveys, compilations, promotional brochures and deposit models; and
- contributing information to maintain and update geosciences databases (e.g. MINFILE).

Regional Geologists Contact Information:			
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Methodology

Compilation of both *Exploration and Mining in British Columbia* documents presents certain challenges. Deadlines demand manuscript submission before all information from programs carried out later in the year is available, and before some programs are even complete. It is also difficult to garner information on all programs that have occurred. In particular, critical grassroots exploration that leads to many new discoveries may be difficult to track because it typically occurs below *Mines Act* permit thresholds.

Regional geologists maintain contact with their industry peers throughout the year, and ideally are able to visit them at project sites to view outcrops and drill core and to discuss results and progress. A significant amount of information is gleaned from corporate press releases, websites and reports. Late in the year informal surveys are conducted to gather as much of the statistical information as possible, but in some instances the authors use their professional judgement to provide reasonable estimates.

Exploration expenditures are broken down by category: grassroots exploration, early-stage exploration, advanced exploration, mine evaluation, and mine lease exploration. Grassroots exploration commonly does not require permitting and the activities and expenditures assigned to this category are less likely to be reported. Early-stage exploration involves focused activities often based on a deposit model. It may include geophysics, geochemistry, trenching and drilling. Advanced-stage exploration is concerned with resource definition emphasizing drilling and bulk sampling, but may include baseline environmental studies, economic pre-feasibility work and exploration of secondary targets. Mine evaluation begins with the firm commitment to develop a resource, and usually coincides with a pending application to government to open a mine; it tends to concentrate on the environmental, social, engineering and financial assessments of a project. Mine lease exploration represents work on a mining property beyond known reserves; it may have characteristics of early-stage or advanced exploration.

Since the exploration expenditures include some estimates, final dollar figures for each region are rounded to the nearest whole million.

ACKNOWLEDGMENTS

The cooperation of the industry in providing information and access to project sites is always welcomed and sincerely appreciated. John DeGrace and Paul Wojdak, emeritus Regional Geologists, have provided editorial commentary and oversight for their former regions. Robin Chu and Betty Chow in Vancouver have provided valuable support in sections throughout the publication. The keen eyes of Lawrence Aspler have improved the document on many fronts. Compilation and layout of the volume was completed by George Owsicki and Garry Payie of Total Earth Science Services.

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