Overview of Trends in

Canadian mineral exploration

Canadian Intergovernmental Working Group
on the Mineral Industry

2004

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on recycled paper.

PRINTED IN CANADA

COVER PHOTO BY PAUL GERTZBEIN, INDIAN AND NORTHERN AFFAIRS CANADA

The cover photo shows diamond-drilling activities at Commander Resources Ltd.'s Malrok zone on Baffin Island, Nunavut. The first-ever drill-testing of the 140-km-long Bravo iron formation was undertaken in 2004 by Suisse Diamond Drilling. Several interesting gold values, in channel samples, and a nickel-copper-cobalt occurrence, in a grab sample, have been discovered in the Bravo iron formation near the southern margin of the Proterozoic Piling Basin on Central Baffin Island. The Bravo iron formation is similar in age and tectonic setting to the large Homestake gold mine in South Dakota. Further exploration work targeting both gold and base metals is planned to start in the spring of 2005.

Preface

The *Overview of Trends in Canadian Mineral Exploration* report is prepared annually, on behalf of the Intergovernmental Working Group on the Mineral Industry (IGWG), for presentation to federal, provincial and territorial mines ministers. It contains an analysis of recent indicators of exploration and deposit appraisal activity in Canada, a review of the exploration and deposit appraisal sector of each province/territory, and a review of the worldwide activities of the larger Canadian exploration and mining companies. The information in this report is current as of November 2004.

The analyses, articles and reviews found in this report were prepared by officials from respective provincial/territorial departments responsible for mineral exploration and from Natural Resources Canada (NRCan). The Minerals and Metals Sector of NRCan was responsible for compiling, editing, producing and distributing this report, which covers exploration and deposit appraisal activities for metallic minerals, nonmetallic minerals, coal and uranium. It does not refer to petroleum-related work.

The report can be accessed on the Internet at www.nrcan.gc.ca/mms/pubs/explor_e.htm.

NOTE TO READER

Government Contacts/ Information Requests

For further information on specific issues related to this report (i.e., exploration activities, incentives and programs, rules and regulations, geoscientific data, etc.), the reader is invited to contact the appropriate federal, provincial or territorial authorities at the telephone numbers listed below or to consult their respective web sites. The contact information for officials who prepared the provincial/territorial sections is also provided at the beginning of each of these sections while the NRCan officials who participated in the preparation of this report are listed below. Prince Edward Island is not included because of a current lack of mineral exploration activity.

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Executive Summary

Statistics from the federal-provincial/territorial Survey of Mineral Exploration, Deposit Appraisal and Mine Complex Development Expenditures show that 2004 was a banner year for the Canadian mineral exploration sector.

After a severe downturn that brought spending levels to an historical low point in 2000 ($497 million), all-inclusive exploration and deposit appraisal expenditures started to recover slowly in 2001 ($513 million) and then gained momentum in 2002 ($573 million) and 2003 ($687 million). Revised company spending intentions for 2004 predict that exploration and deposit appraisal spending for that year will total $979 million. When converted to 2003 constant dollars, this total is the highest on record since 1997.

This remarkable and quite sudden upturn can be explained by the convergence of a number of positive factors. Rapidly rising metals prices, the availability of generous tax and non-tax incentives, and the willingness of investors to support mineral exploration ventures, as well as a steady stream of positive exploration news, all contributed to revitalizing mineral exploration in this country. The continued presence of these favourable conditions at the beginning of 2005 points to another good year for the Canadian mineral exploration sector.

The junior mining sector, which had been severely battered by the downward trend of the late 1990s, was mainly responsible for this intensification of exploration and deposit appraisal activity. In fact, junior spending was expected to reach $488 million in 2004, a total that would bring junior companies on par with senior companies whose spending was forecast to amount to $491 million.

As a result of this drastically increased junior company spending, expenditures dedicated solely to the exploration work phase are expected to reach $783 million in 2004, representing 80% of total intended exploration and deposit appraisal expenditures for that year. Furthermore, $719 million (92%) of this total will be incurred off mine sites, a clear indication that spending is concentrated on off-mine-property and grassroots types of work.

The current focus on the earlier stages of the mineral development cycle practically erases the concerns about the lack of grassroots-type exploration that were expressed just a few years ago. However, there is now evidence that Canada needs more advanced exploration and deposit appraisal work, as well as on-mine-site activities, to increase ore reserve levels and prolong the lives of certain Canadian mines and mining camps. This is particularly true of base-metal mining camps and the smelters and communities that depend on them.

In terms of spending by commodity group, data from 2003 reveal that precious metals continued to dominate the Canadian exploration scene as the top exploration target while the search for diamonds outpaced that for base metals for the third year in a row.

As detailed in the Regional Outlook section of this report, many interesting exploration and deposit appraisal projects are currently under way in Canada. Federal, provincial and territorial governments continue to support and promote exploration and deposit appraisal activities in their respective jurisdictions through various initiatives, including innovative fiscal incentives, the resolution of land access issues, and the provision of state-of-the-art geoscientific data.

Globally, Canada continues to be the foremost destination for the exploration capital of the world's larger mineral exploration companies. In 2003, some 18% of the mineral exploration programs planned by these companies were expected to be conducted in Canada. As for the larger Canadian companies, they were expected to undertake one third of all the exploration programs in the world in 2003, a share that is by far the largest of the global mineral exploration market.

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ABBREVIATIONS

The reader should note that a number of abbreviations for common units of measurement appear in the text:

cm	centimetres
ct	carats
ct/ht	carats per hundred tonnes
ct/t	carats per tonne
ct/y	carats per year
ft	feet
g	grams
g/t	grams per tonne
ha	hectares
kg	kilograms
km	kilometres
km2	square kilometres
lb	pounds
m	metres
Mct	million carats
Mha	million hectares
Mt	million tonnes
Mt/y	million tonnes per year
NTS	National Topographic System
oz	troy ounces
t	tonnes (metric)
t/d	tonnes per day
t/h	tonnes per hour
t/y	tonnes per year
tU	tonnes of uranium

Note: Unless specified otherwise, all dollar figures are in Canadian dollars.