Overview of Geological Mapping and Geochemistry

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The Geological Mapping and Geochemistry Section of the Nova Scotia Department of Natural Resources (DNR) is undergoing an important period of change and reflection. Retirements and increasing requests from non-traditional clients are requiring a close evaluation of priorities and future work plans.

DNR recognizes that geological mapping is a fundamental activity of the department and a high priority for our clients. Therefore, we will continue to place an emphasis on regional 1:50 000 scale mapping. This work will be balanced with detailed mapping or research projects that have high potential for supporting mineral exploration and development. In addition, the section will continue to work closely with the Geoscience Information Services Group to increase digital bedrock and geophysical map coverage of the province.

The increased demand for geochemical expertise related to environmental issues is making it more difficult to maintain usual levels of service to the mineral industry. Over the last 40 years, DNR conducted regional geochemical surveys that collectively cover the province. For now, we intend to ensure that our existing regional survey data are properly edited and available as digital databases with well-documented metadata. The section will continue to undertake some deposit-scale geochemical research, but this will have to be balanced against the demands for environmental geochemistry.

Projects currently being undertaken by the Geological Mapping and Geochemistry Section include:

- 1:50 000 scale mapping of the Meguma Group in southwestern Nova Scotia and the Eastern Shore;
- detailed mapping and structural analysis of selected Meguma Group gold deposits;
- sieving and archiving of >30,000 geochemical samples collected as part of a province-wide geochemical survey by Bluestack Resources Inc. in the early 1980s;
- analysis of acid rock drainage potential of the Halifax Formation;
- investigation of the distribution of metals and metalloids in freshwater and marine environments adjacent to abandoned gold mines;
- analysis of gold grain dispersion trends in tills adjacent to selected gold occurrences; and
- detailed stratigraphy and sedimentology of the coal measures in the Donkin Resource Block.

Some future projects under consideration include a structural and metamorphic analysis of the Liscomb Complex and production of 1:50 000 scale maps of pre-Carboniferous rocks on Cape Breton Island.