9. CONCLUSIONS

The base metal environments described above are the main types known in the province. The variety within classes shows a diversity of deposit types any one of which could attain commercial status. Some deposits are large tonnage, low-grade, while others contain a small tonnage of good, ore-grade material.

The successful exploration techniques also vary with each deposit and cover the spectrum from prospecting through geochemistry and geophysics to drilling and underground exploration. It is apparent that future discoveries will use all of these techniques allied with geological modelling and analyses. Emphasis will probably be on geological process rather than being constrained simply by rocks of particular geological ages. This point is well illustrated by the stratigraphic range of 'carbonate-hosted' deposits from the Precambrian (Meat Cove and Lime Hill) through Silurian carbonates (Lochaber Lake) to the Lower Carboniferous Windsor Group deposits. The hybrid nature of the tin deposits refers more to the host being either granite or Meguma metasediments, which in turn reflects the nature of the mineralizing process and the availability of solution paths.

Keppie (in press) recognizes six metallotectonic terranes within the northern Appalachians. He notes that these fundamental terranes are overstepped by Silurian-Devonian-Carboniferous sequences and re-activation of older terrane boundaries and synchronous faults are commonly the sites of mesothermal and epithermal precious and base metal deposits. Very often the evidence for such hidden boundaries are subtle and the integration of regional surveys, including geochemical, geophysical, topographical, geological and mineralogical will be fundamental to discovering these deposits.

It would appear that the geological diversity and stratigraphic range of base metal deposits in Nova Scotia, as described in this paper, attest to the favourability of the province as a viable exploration area.

ACKNOWLEDGMENTS

This study was financed by a contract from the Canada-Nova Scotia Cooperation Agreement on Mineral Development and the assistance and support of the Energy Mines and Resources staff in Halifax, especially my scientific authority, Willard Holtz, is appreciated. The support, interest, and critical review by staff of the Nova Scotia Department of Natural Resources is acknowledged.

Mr. Gregory Isenor, G. P. Isenor Co. Ltd., researched the Carbonate-hosted section and in acknowledging this assistance and free discussion it must be stated that the author accepts sole responsibility for the final document.

The document benefited from editorial review by Mr. D. R. MacDonald of the Nova Scotia Department of Natural Resources and this is gratefully acknowledged.

Others have had input, either through direct discussion or services, or indirectly through publications, and this assistance is acknowledged with pleasure.