

MINERAL OCCURRENCE DATA SYSTEM

C.F. O'Driscoll, J. Smith, G. Stapleton and D. King
Mineral Deposits Section

The Mineral Occurrence Data System (MODS) is a two-part project, which consists of a manual Mineral Inventory File and a computerized Mineral Index. The project is designed to offer an efficient information service on all the mineral occurrences in Newfoundland and Labrador.

The Mineral Inventory File is part of the National Mineral Inventory and consists of mineral-occurrence descriptions that summarize all data on known mineral occurrences in the province. The file presently contains approximately 4000 descriptions, including all mineral occurrences for the Island of Newfoundland (Figure 1) and selected areas in Labrador (Figure 2). The file and topographic location maps have been microfiched and duplicates are available upon request.

At present, the Mineral Inventory File for the Island of Newfoundland is being updated. This file was started in 1978, and since then, much new geological mapping and exploration have been carried out and many new occurrences have been discovered. Updates were done in the past only on land tenure and major mineral occurrences. Areas that have been updated with new mineral occurrence descriptions include major parts of 12A, 12B and 12H map areas. In addition, industrial minerals for all of Newfoundland have been documented.

Mineral occurrence maps that have updated geological bases have been published at a 1:250,000 scale and are available upon request. In addition, selected areas have been published at 1:50,000 and 1:100,000 scales. These maps contain locations, a listing and a brief description of the occurrences.

The computerized Mineral Index contains information selectively extracted from the Mineral Inventory File, which is stored on a Hewlett Packard 9000/560 Unix-operated mini computer, located at the Geological Survey Branch, Department of Mines and Energy, 95 Bonaventure Avenue, St. John's. The Geological Retrieval and Synopsis Program (GRASP) developed by the United States Geological Survey is used to manage and manipulate the database. GRASP permits users to perform complex searches of the mineral inventory data. This database presently contains information on approximately 3700 mineral occurrences. Plans are being made to publish this database on floppy disk along with a database program, which will enable users to install the database on their personal computers.

An index to the province's industrial mineral occurrences is also available. This database utilizes IBM compatible REFLEX software stored on a H.P. Vectra ES/12 micro computer and provides a quick index to industrial mineral occurrences. Users interested in a particular commodity can retrieve a listing of that commodity's occurrences, thus simplifying their search of the manual file.

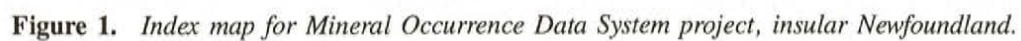
The manual Mineral Inventory File is used as a quick reference to specific deposits. Exploration-company personnel frequently request information on a particular mineral showing or prospect. This is particularly true of those companies new to the province or those moving into new areas. Generally, this preliminary research is done at the Department of Mines and Energy by government personnel. However, since a large part of the file has been microfiched, it is available to all companies at a reasonable cost.

The Mineral Inventory File is used daily by government geologists in land-use planning. Advice is given to various departments of government in establishing wilderness areas, hydro developments, provincial and national parks, and any other developments that may conflict with future mineral exploration and development. In addition, municipal councils and the Department of Municipal and Provincial Affairs are advised of the location, extent, and nature of mineral deposits in specific areas, so that new housing and commercial developments, municipal parks, water reservoirs and sewage-disposal systems can be located, where possible, in areas of low mineral potential.

Copies of the file are made available to the various agencies of the federal government such as the Mineral Policy Sector and the Geological Survey of Canada. These are then adapted to the National Mineral Inventory, MINSYS and CANMINDEX.

The file is available to anyone who is researching mineral deposits in the province. It is useful to students who are writing papers on specific mineral deposits and to company and government personnel who are writing proposals for future work, or preparing information brochures about particular areas.

Using computers, the retrieval capability of the Mineral Index is optimized and complex retrievals can be made that would be virtually impossible if a manual system were used.



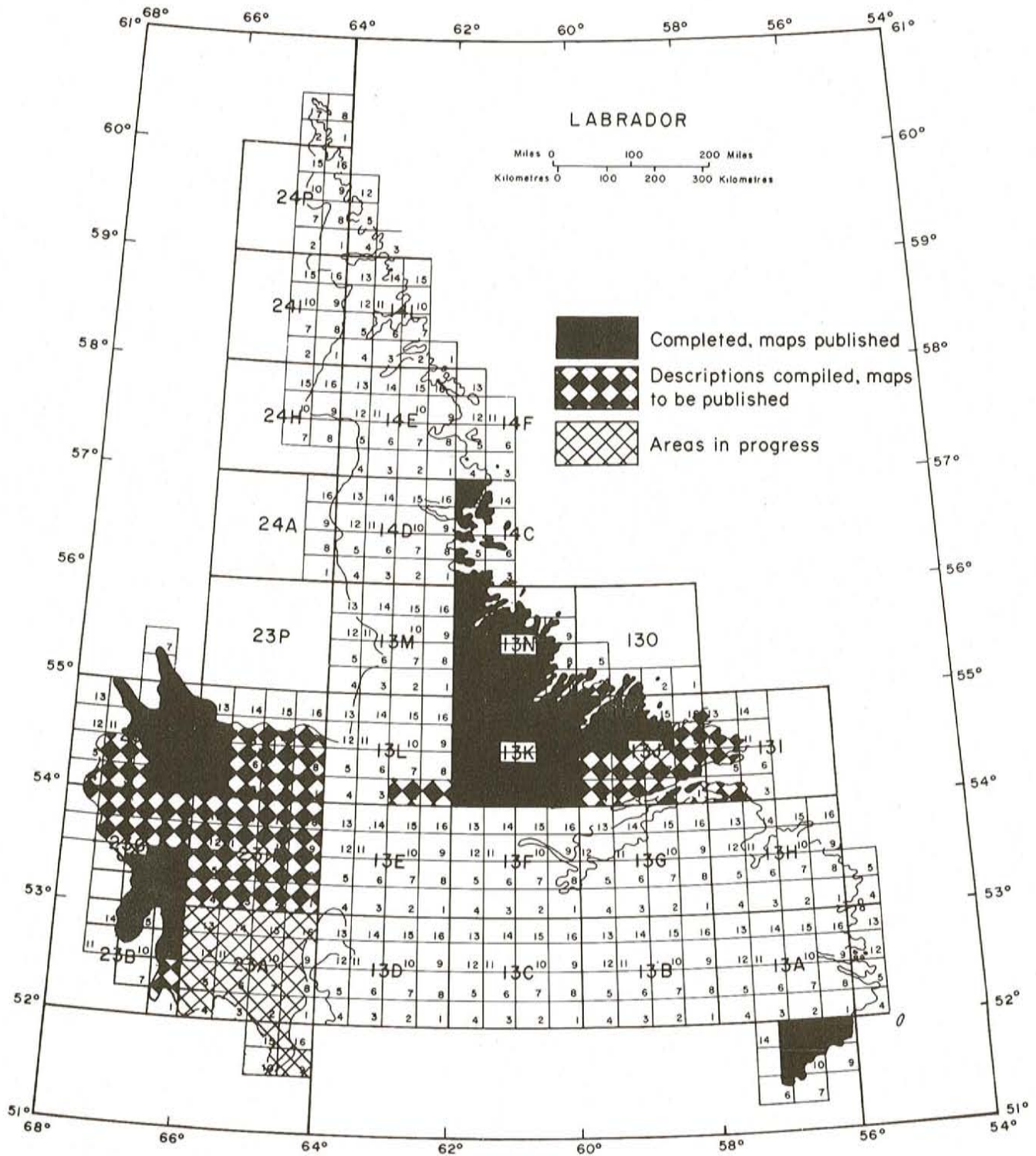


Figure 2. Index map for Mineral Occurrence Data System project, Labrador