

## MINERAL OCCURRENCE DATA SYSTEM

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### ABSTRACT

*The Mineral Occurrence Data System (MODS) is the principal repository for geological information on the Province's mineral resources and comprises summaries of data on over 6000 mineral occurrences. It offers fast and easy access to the data and is searchable from the Geological Survey's website.*

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### INTRODUCTION

The Mineral Occurrence Data System (MODS) is the principal repository for geological information on the Province's mineral resources (O'Driscoll *et al.*, 1991) and is a two-part infobase consisting of a mineral occurrence database and a collection of mineral occurrence maps. The MODS comprises summaries of data on known mineral occurrences, and is designed to offer fast and easy access to information. It contains over 6000 mineral occurrence descriptions covering all of Newfoundland and Labrador. The main delivery point for the MODS data is the Geological Survey of Newfoundland and Labrador (GSNL) website (<http://www.gov.nl.ca/mines&en/geosurvy>).

### MINERAL OCCURRENCE DATABASE

#### MODS (ORACLE™)

During the past year, the MODS was moved from the MS-Access™ database management system (Stapleton and Smith, 1999) to the Oracle™ database management system; however, the former is still used for data entry. MS-Access™ connects to the Oracle™ database using ODBC (object database connectivity) technology. In addition to increasing the security of the MODS data, Oracle™ will become the common platform for all GSNL databases, which will enable more efficient sharing of information between them. For example, MODS will no longer have to acquire, and continuously update, a bibliographic reference list from the Geofiles Database, but will be able to link to it directly. The move to Oracle™ will be seamless to clients who will still be able to search the database from the Geological Survey's website using either the "MODS Index Search Form" or the

"Geoscience Resources Atlas". The MODS internet application is dynamically linked to the Oracle™ database, thus giving clients same-day access to updated information.

#### MODS FOR GIS

##### "Geoscience Resources Atlas" Online

Detailed MODS data can be queried and viewed in a map environment in conjunction with other geoscientific data sets online using the "Geoscience Resources Atlas" from the Geological Survey's website.

##### MapInfo™ and ArcView™

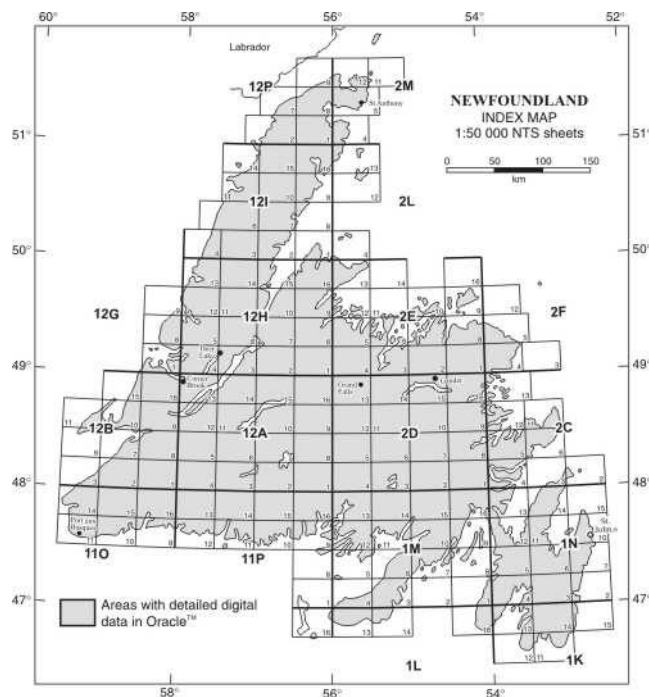
Selected fields from the mineral occurrence database are also available on CD-ROM as part of the Geoscience Atlas of Newfoundland (Davenport *et al.*, 1999a) and the Geoscience Atlas of Labrador (Davenport *et al.*, 1999b). Both operate as "turnkey" systems on personal computers in MapInfo™ and ArcView™ formats. These publications enable clients to view mineral occurrence data in broader geoscientific contexts.

### MINERAL OCCURRENCE MAPS

Mineral occurrence maps on geological bases have been published at 1:250 000 scale and selected areas have been published at 1:50 000 and 1:100 000 scales. An industrial minerals map for insular Newfoundland, at 1:1 000 000 scale on a coloured geological base, is also available. These maps provide the location, minerals present and status of each occurrence. Mineral occurrence locations are also plotted on 1:50 000-scale topographic maps and are available

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**Figure 1.** Index map for Mineral Occurrence Data System project, insular Newfoundland.

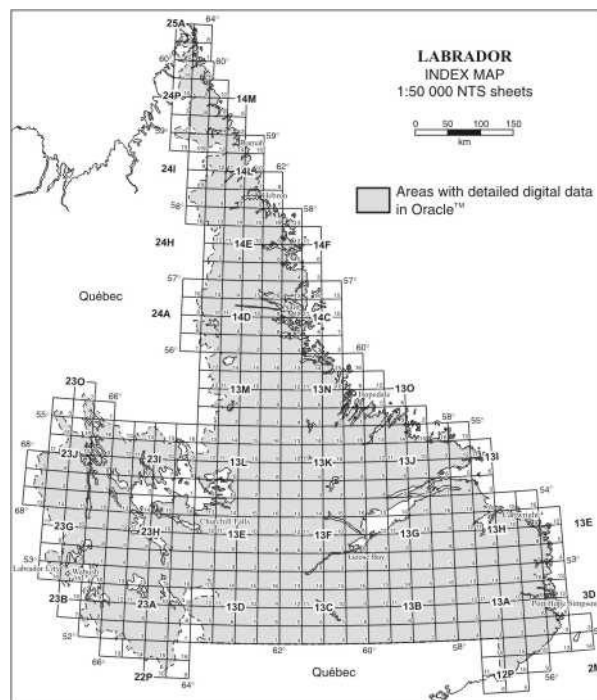
for viewing at the Geological Survey's offices in St. John's, Newfoundland.

The MODS project has also published six, on-demand, thematic mineral occurrence maps on geological bases. These are, Epigenetic Gold and Related Mineralization, Newfoundland; Copper and Associated Mineralization, Newfoundland; Zinc-Lead and Related Mineralization, Newfoundland; Mississippi Valley-Type Lead-Zinc Mineralization, Newfoundland; Volcanogenic Massive Sulphide Deposits, Dunnage Zone, Newfoundland; and Metallic Mineral Occurrences of the Avalon Zone, Newfoundland.

All maps are available from the Geological Survey's Geoscience Publications and Information Section, upon request.

### MODS UPDATE

Integration of information previously contained in the manual WordPerfect™ files and the computerized R:BASE™ database into the MS-Access™ database (Stapleton *et al.*, 2000) has been completed for both insular Newfoundland and Labrador (Figures 1 and 2). Attention is now focused on systematically updating mineral occurrence data for the Avalon Peninsula and documenting the Province's recent gold discoveries.



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

### MODS USERS

The MODS is used by mineral exploration company personnel and consultants, independent prospectors, geotechnical consultants, personnel and students of academic organizations and the general public. It is also used daily by government geologists in land-use planning. Advice is given to various government departments through the Interdepartmental Land Use Committee (ILUC) referral process on establishing wilderness areas, hydro developments, provincial and national parks, cottage developments, water reservoirs, etc., so that where possible, these developments proceed in areas of low mineral potential.

It is made available to various federal government agencies such as the Mines and Metals Sector, the Geological Survey of Canada (GSC), and will be this Province's contribution to the Mineral Deposits Subgroup of the Canadian Geoscience Knowledge Network (CGKN) (Stapleton and Smith, 2004).

### MODS USER STATISTICS

GSNL website statistics for the one-year period between July 2003 and June 2004 indicate that during that time, the MODS database was queried 26718 times by 1409 unique users for an average of 19 queries per user. As illus-

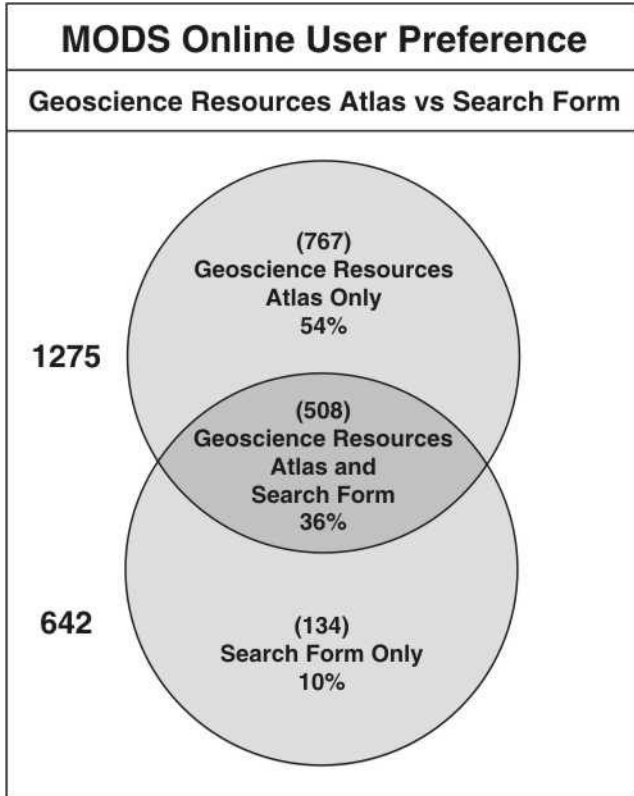


Figure 3. MODS online user preference, Geoscience Resources Atlas vs. MODS Index Search Form.

Table 1. Summary of top 50 MODS database users

Query Origin	No. of Queries	No. of Users
GSNL	6867 (1096)	7 (4)
Newfoundland & Labrador	3410	12
Eastern & Central Canada	2391	14
Visiting Prospectors	685	3
British Columbia	495	2
Memorial University	463	4
Government NL (excluding GSNL)	445	5
USA	290	2
Europe	159	
<b>Total</b>	<b>15205(9468)</b>	<b>50(47)</b>

trated in Figure 3, 767 clients searched the database using only the Geoscience Resources Atlas, 134 clients used only the MODS Index Search Form, while 508 clients used both methods.

The results of a detailed analysis of website statistics for the top 50 MODS database users is summarized in Table 1 and illustrated in Figure 4.

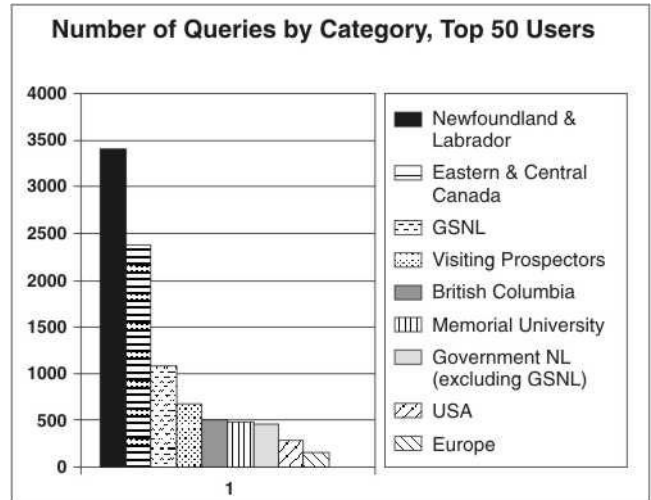


Figure 4. MODS online search, number of queries by category, top 50 users.

### Interpretation of Statistics

To normalize the data, which is heavily skewed by the large number of queries made from GSNL computers, queries made from three GSNL computers exclusively used for data entry and database building purposes were removed from the GSNL total.

Of the ten GSNL computers that queried the database, three are almost exclusively used for the support of the Province’s mineral exploration industry; one being located in the Matty Mitchell Prospector’s Resource Room and the other two in offices reserved for visitors to the GSNL. Queries made through these computers were grouped into the category Visiting Prospectors.

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