

The Mineral Occurrence Database: Going Online

G. A. O'Reilly and D. Sun

Introduction

The Mineral Resources Branch of the Nova Scotia Department of Natural Resources has maintained a digital version of the Mineral Occurrence Database (MODB) since 1996 (O'Reilly *et al.*, 1997). Since then, the MODB has consisted of two software products: the database files themselves and an accompanying run-time view program used to search, view and print information contained within the database files. These two digital products were created and maintained in the 16 bit Microsoft FoxPro for Windows® Version 2.6a and were originally designed for use with Microsoft Windows® 3.1. These programs served well through subsequent update releases of the 32 bit Windows® 95 and Windows® 98 operating systems. With the release of Windows® NT, 2000, XP and Vista®, however, it became increasingly apparent that the original FoxPro® 2.6a database platform was becoming obsolete. Each subsequent Windows® update introduced new problems to be conquered in order for the system to work.

Over the last few years the branch has been making a concerted effort to migrate several digital applications into browser-based web products accessible in real time directly through the branch website. It was decided that the time had come to modernize four of the branch's databases and migrate them into three web-based applications: (1) the Mineral Occurrence Database; (2) the Abandoned Mine Openings Database; and (3) to merge the Drill Core Database and the Drillhole Database into one. To achieve the migration, the junior author (D. Sun) was contracted from 2006-2009 to develop web-based applications in .NET using Microsoft SQL Server 2005®. The resultant three applications would be modelled after the NovaScan application, which is maintained by the Mineral Resources Branch to search all geoscience maps and publications for Nova Scotia. This document provides an overview of the application developed to accommodate the MODB.

The Web-based MODB Application

The Mineral Occurrence Database contains data on the locations of metallic and industrial minerals and coal throughout the province. A mineral occurrence is defined as any location where a naturally occurring concentration of a mineral(s), rock or surficial material is found that occurs in a concentration above the norm, such that it may be of interest to the mineral exploration industry or other clients, such as university researchers, geotechnical and environmental professionals, mineral and rock collectors, naturalists, the construction industry and the general public. Although the MODB contains information for almost 3000 mineral occurrences, this does not represent all the known mineral occurrences in the province. The database is continually being revised with new mineral occurrence entries, and with additional information added to the existing entries.

The FoxPro for Windows® version of the Mineral Occurrence Database from 1996 (O'Reilly *et al.*, 1997) was subject to annual data updates, with the most recent update (Version 9) released in 2006. Prior to development of the web-based MODB application, the database underwent a final data update to Version 10. This updated version of the database was incorporated in the new application and will be publically released when the new MODB application goes online. Versions 1-9 of the Mineral Occurrence Database recorded coordinate information in the UTM projection and a NAD 27 datum. In 2006, however, the Mineral Resources Branch adopted the NAD 83 datum for all georeferenced data, but the mineral occurrence database was unable to accommodate this change and continued to use the NAD 27 datum. Prior to inclusion of Version 10 of the mineral occurrence database in the web-based MODB application all locations were converted to the UTM NAD 83 projection. Following release of the new MODB application all current mineral

occurrence entries and all added in the future will be recorded using the NAD 83 datum.

The Main Search Screen

Upon entering the MODB application and clicking through the welcome page, users will be presented with the Main Search Screen (Fig. 1). This screen allows users to find the mineral occurrence (or occurrences) of interest by either using a Simple Search (top half of the page) or an Advanced Search (bottom half). A Simple Search is carried out by bracketing all, or part, of a text string between two “%” symbols (upper or lower case letters can be used). Figure 1 shows the simple search term that would be used to locate the Lake Catcha Au District. Initiating a search using % Catcha% will return any entry in the database that uses the text string “catcha” in either the mineral occurrence name or commodity field. The user will be presented with a listing of all records that meet that search criterion.

An Advanced Search is initiated by entering a query in one or more of the nine field windows available. In an Advanced Search a user can search for things like all mineral occurrences within a particular county or NTS map sheet, or for all mineral occurrences of a particular commodity (e.g. Au). An Advanced Search for “Au” will return a large number of hits, essentially all mineral occurrences in the province where Au is found. Note that an Advanced Search may also be much more restrictive than a Simple Search. For example, if you carry out a search using the “Name” field and do not enter the full and proper name for the occurrence of interest, or if you misspell one of the words, the search will fail to locate the record.

An Advanced Search can also be carried out using one of the “Browse” buttons found to the right of each of the nine field names. These “Browse” buttons will present the user with a window listing alphabetically everything in the database under that category. The user can then simply type in all or part of the term of interest in a search window provided and click the “GoTo” button and the program will link to that portion of the database containing those terms.

The Mineral Occurrence Record View Screen

Once a user carries out a search using the Main Search Screen they will be presented with a listing of one or more mineral occurrence records that meet their search criteria. From this list of occurrences they can select one, several or all of the records for viewing and/or printing. Once the selection is made, a “Show Selection” button presents the user with a page showing the detailed information for that particular mineral occurrence. If you select more than one mineral occurrence the detailed information for each occurrence will be presented on a separate page. Figure 2 shows the Mineral Occurrence Record Screen for Occurrence # D11-004, the Lake Catch Au District. The front page presents the basic information for the occurrence, such as name, commodities and minerals present, type of mineral occurrence (e.g. metallic, industrial, coal) and status (occurrence, prospect, past producer). The page also has sixteen other buttons which present the user with further information relating to the mineral occurrence. For example, the “Location Description” button will present information as to where the occurrence is and how to get there. The “Previous Work” button will present a description of the past exploration and mining history of the site. The “Coordinates” button will display the UTM NAD 83 coordinates as well as the NTS map sheet, zone, mining tract and claim in which the occurrence is found.

Printing from the MODB Application

The MODB application allows the user to save and print information derived from the search process. Once a user carries out a search and arrives at a list of mineral occurrences that meet the search criteria, all, or some, of the occurrences can be selected, after which the “PDF Report” button is selected. This will present the user with a data export screen from which the information can be exported to an Adobe Acrobat® PDF file (Fig. 3). Once in PDF format the user has the option to either print the information or save the PDF file for later printing.

Mineral Occurrence Search Page - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Media Print Copy Paste Address http://gis3.natr.gov.ns.ca/modb/queryView/querysearch.aspx Go Links >>

Nova Scotia Canada **Natural Resources**

[Back to Main Page](#) / [Login](#)

Search Mineral Occurrences

Simple Search **Clear Search**

Simple Search **Help**

(Simple Search by Name, Mineral use % represent any string or more characters, e.g 'hal%' = all strings start as 'Hal')

Advanced Search **Clear Search**

Advanced Search: **Help** **And**

Occurrence #:		Browse	Help
Name:		Browse	Help
County:		Browse	Help
NTS:		Browse	Help
Stratigraphic Unit:		Browse	Help
Age:		Browse	Help
Mineral:		Browse	Help
Mode:		Browse	Help
Commodity:		Browse	Help

Advanced Search **Clear Search**

Back

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Done Internet

Figure 1. The main search screen for the MODB application. Note the search string that would be used to locate anything in the database that contains the term.

Update page - Windows Internet Explorer

http://gis3.natr.gov.ns.ca/modb/queryView/searchresult.aspx

File Edit View Favorites Tools Help Links Customize Links Min Occ Database CBC Nova Scotia The Herald

Update page

Natural Resources

NOVA SCOTIA CANADA

[Main Menu](#) < [Search Page](#) < [Back](#)

Mineral Occurrence Database

D11-004

Name: Lake Catcha Au District

Type: Status: Past Producer

Commodities: Au, Pb

Minerals : native gold, galena, arsenopyrite, sphalerite, pyrrhotite, pyrite, chalcopyrite, scheelite

Memo

Location Description

Field Description

Geological Description

Previous Work

Possible Restrictions

Comments

Bibliography

Updated By

Other

Commodities

Minerals

Modes

Alteration

Surveys

Samples

Coordinates

Host Rock Info

[Back](#)

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Internet 100%

Figure 2. The Mineral Occurrence Record Screen for Occurrence #D11-004, Lake Catcha Au District.

Report[1].pdf - Adobe Reader

File Edit View Document Tools Window Help

1 / 7 120% Find

MINERAL OCCURRENCE DATABASE

OCCURRENCE NUMBER:	D11-004
OCCURRENCE NAME:	Lake Catcha Au District
COMMODITIES:	Au, Pb
MINERALS:	native gold, galena, arsenopyrite, sphalerite, pyrrhotite, pyrite, chalcopyrite, scheelite
STATUS:	Past Producer
COUNTY:	Halifax

CLAIM INFORMATION
(Coordinates in UTM NAD83)

Claim Map	Tract	Claim	Easting	Northing	Zone
11D/11D	106	C	484588	4953945	20

HOST ROCK INFORMATION

Stratigraphic Unit	Age	Host Rock(s)
Goldenville Formation	Cambro-Ordovician	Quartzite
Meguma Group	Cambro-Ordovician	Metawacke

LOCATION DIRECTIONS

There are two routes by which the Lake Catcha Gold District, Halifax County is easily reached. Either route are fine, as they both access the site by way of a reasonable quality gravel road.

ROUTE #1

Proceed east along Highway #107, past the Porters Lake turnoff to the exit to East Chezzetcook. Leave the highway at this turnoff. At the stop sign at the end of the off-ramp, turn right and drive south on the road to East Chezzetcook for 2.65 km to the "Mines Road" on the left. You may notice that the Mines Road is about 100 m south of where a road called the

8.27 x 11.69 in

Figure 3. Screen capture showing the first page of an Adobe Acrobat® PDF file exported from the MODB application for the Lake Catcha Au District.

Summary

The Mineral Resources Branch has created a web-based MODB application in SQL Server 2000® that will allow the branch to provide clients and the general public online access to the Mineral Occurrence Database. All of the data fields that have existed in the Mineral Occurrence Database since it was made available as a stand alone, run-time application in 1996 will be retained in the new MODB application. The MODB application will be up and running on the Mineral Resources Branch website in March 2009.

Reference

O'Reilly, G. A., DeMont, G. J., Peachey, L. H., Dickson, L. D., Hughes, S. G., MacLeod, K. A. and Feetham, M. 1997: The Mineral Inventory Program: public release of the Mineral Occurrence Database; *in* Minerals and Energy Branch, Report of Activities 1996; eds. D. R. MacDonald and K. A. Mills; Nova Scotia Department of Natural Resources, Report 97-1, p. 147-152.

