



Heine, T.H. 2006: Manitoba Mineral Deposits Database; in Report of Activities 2006, Manitoba Science, Technology, Energy and Mines, Manitoba Geological Survey, p. 255–256.

### Summary

Many jurisdictions have established digital databases describing elements of their mineral deposits and occurrences. Not only does such a system provide an inventory of existing deposits, but it also provides a resource for analyzing the potential of a particular geological environment or group of environments for hosting additional resources.

### Introduction

Early efforts at establishing an archive of mineral deposits and occurrences consisted of creating a collection of Mineral Inventory Cards (Bamburak, 1980). These summarized the location, work performed, geology and related information for each occurrence. Although this database consisted of paper records, xerographic copies could be obtained from the Geoscience Information Section of the Manitoba Geological Survey in Winnipeg. The Mineral Inventory Cards continue to be widely used, and were maintained until about 1992 (metallic minerals) and 2002 (industrial minerals). Some of the cards can be accessed through the Internet. During this period, the Mineral Deposit Series of publications was published (Manitoba Industry, Trade and Mines, 1988–2003). These had a purpose similar to that of the Mineral Inventory Cards, but concentrated on individual 1:50 000 NTS areas and were distributed as individual reports. They covered only the main mining areas of Manitoba and were current only up to the date of publication. By the 1990s, it became evident that a province-wide digital database that could be updated on a regular basis would provide a valuable resource to the mineral-exploration community. To this end, an effort was put into designing a relational database of the mineral deposits and occurrences in Manitoba.

### Existing information

A considerable archive of information about Manitoba's mineral deposits and occurrences has already been compiled in the Mineral Inventory Cards and Mineral Deposit Series. Previous compilations have also described mineral occurrences in the northern Superior Province. In addition, recent changes to *The Mines and Minerals Act* have made available more than 3000 assessment files. These provide additional information on work performed on mineral occurrences that have already been documented, as well as details about new ones. The newly designed database will include a subset of information from the above sources and provide users with a search engine to query the data.

### Structure of the database

In order to maintain consistency, the database uses the same occurrence numbers that are used in the Mineral Deposit Series.

The prefix for each occurrence number is the 1:50 000 NTS sheet designation, and occurrences are numbered sequentially. The database consists of two series of tables: a set of lookup tables that facilitate data entry and a series of data tables that are linked by a common occurrence-number field. The data tables contain the following information:

- occurrence number
- occurrence location information
- information about gaining access to each occurrence
- geological setting
- deposit type and characteristics of the mineralization
- workings (shafts, pits, trenches)
- commodities of interest at occurrence
- rock type(s) associated with, and minerals constituting the mineralization
- alteration associated with the mineralization
- geophysical, geochemical and other surveys undertaken at the occurrence
- diamond drilling
- publications and assessment files that relate to the occurrence

Some of the fields are linked to data already available on Manitoba government websites. For example, non-confidential assessment files can be viewed through the GIS Map Gallery at <http://www.gov.mb.ca/iedm/mrd/geo/gis/index.html>.

The database is being developed in Oracle<sup>®</sup>, and current plans call for it to be issued in 2008 as a CD-ROM. Updates will be released as they become available. The structure of the database has been finalized and is currently being tested.

### Economic considerations

Electronic databases provide a powerful tool that allow the rapid analysis of large quantities of data. Organizations can quickly see and evaluate what work has been undertaken in an area, in order to optimize their mineral-exploration efforts.

## References

- Bamburak, J.D. 1980: Mineral Inventory of Manitoba; Manitoba Energy and Mines, Mineral Resources Division, Economic Geology Report ER79-6, 41 p.
- Manitoba Industry, Trade and Mines 1988–2003: Mineral Deposit Series, Reports 1–33; Manitoba Industry, Trade and Mines, Manitoba Geological Survey.