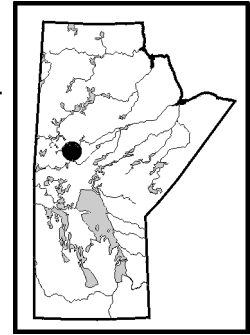


**MANITOBA'S PRECAMBRIAN DRILL CORE LIBRARIES PROGRAM:
AN UPDATE
by D.E. Prouse**



Prouse, D.E. 2002: Manitoba's Precambrian drill core libraries program: an update; *in* Report of Activities 2002, Manitoba Industry, Trade and Mines, Manitoba Geological Survey, p. 312-314.

SUMMARY

Manitoba's Mineral Resources Division has been storing Precambrian drill core, obtained primarily from exploration drilling, since the early 1970s. Since that time, the Manitoba government has created a substantial repository of drill core at five locations throughout the province. Throughout most of the 1990s, the core libraries were run on a care-and-maintenance basis. In 2001, funding became available to organize drill core additions from recent years and update core library inventories, including the Centennial core storage site.

When Hudson Bay Mining and Smelting Co. Ltd (HBMS) announced the impending closure of the Ruttan copper-zinc mine near Leaf Rapids in October 2001, the Manitoba Geological Survey (MGS) made funds available to archive drill core stored at the Ruttan minesite. Working in conjunction with Hudson Bay Exploration and Development (HBED) and Ruttan mine geological staff, a summer field program was conducted to retrieve and store Ruttan regional exploration drillholes in the MGS Lynn Lake core library.

INTRODUCTION

The Manitoba Mineral Resources Division considers the archiving of exploration drill core to be a valuable data source for use by mineral exploration companies and for research. For this reason, the province has retrieved and stored Precambrian drill core since the early 1970s. The construction of core storage facilities at The Pas (1972), Thompson (1973) and Lynn Lake (1974) provided space that enabled a concerted effort toward the establishment of a comprehensive drill core collection. The acquisition of storage space in Winnipeg in 1980 for drill core from southeastern Manitoba meant that there was a core storage facility for drill core collected and/or donated from all of Manitoba's major greenstone belts.

The Canada-Manitoba Mineral Development Agreement (MDA), which ran from 1984 to 1989, provided funding towards activities that were key to strengthening Manitoba's mineral industry, including Manitoba's Drill Core Libraries Program. During the term of the agreement, \$630 000 was spent on capital and operating costs, allowing for expansion of all northern core storage facilities and proper documentation and organization of inventories. Once the expansion projects were completed, the four libraries had a combined storage capacity of approximately 333 000 m of core. Nearly 80 000 m of core were collected and added to the libraries, and about 58 000 m were discarded during the period of the MDA. The libraries contained nearly 180 000 m of core, representing 54% of total capacity, at the end of the MDA in 1989 (Prouse, 1989)

In 1993, the establishment of a Manitoba Geological Survey (formerly Manitoba Geological Services) expediting base at the former Centennial minesite near Flin Flon provided secure outside storage for drill core from the Flin Flon area. Since that time, thousands of metres of drill core have been donated for storage by various companies. In 2001, the drill core holdings at the Centennial site were reorganized and inventoried for the first time. This work is still in progress.

In July 2002, it was estimated that the Department of Industry, Trade and Mines (ITM) Precambrian drill core library facilities contained approximately 252 000 m of core. This figure includes about 20 000 m of Precambrian core stored at the department's Midland rock lab in Winnipeg. This estimate does not include the substantial holdings at the Centennial site.

2002 FIELD PROGRAM

In October 2001, HBMS announced that it would permanently shut down the Ruttan copper-zinc mine near Leaf Rapids in June 2002. Shortly after closure of the Ruttan operation, HBMS intended to proceed with reclamation of the Ruttan minesite. The Ruttan site contains a very large repository of diamond-drill core (Fig. GS-39-1), from both mine development and exploration drilling, as well as regional exploration drilling by HBED and Ruttan's previous owner, Sherritt Gordon Mines Ltd. During the process of reclamation, all surface buildings, including core storage racks and piles, were to be permanently removed.

Realizing the importance of this drill core, MGS worked in conjunction with HBED to develop a plan to retrieve and archive high-priority exploration drillholes at the department's Lynn Lake core library facility. More than

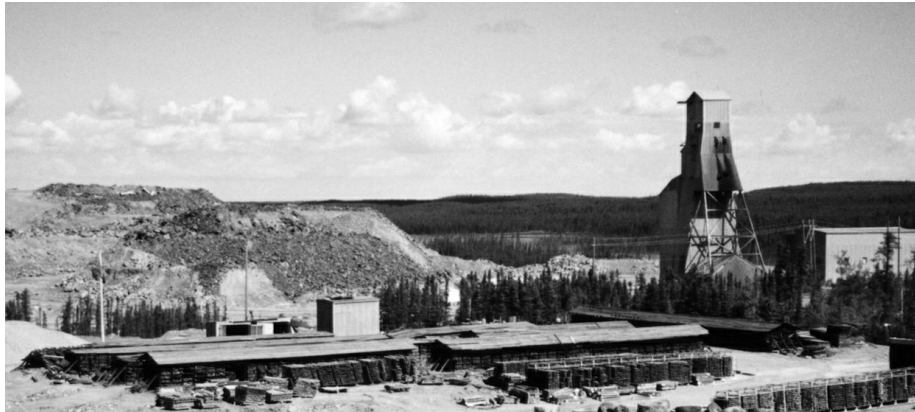


Figure GS-39-1: View of the extensive drill core holdings at the Ruttan minesite, July 2002.

90 regional exploration drillholes were completed by HBED in the Ruttan–South Indian Lake area since 1990, many of them testing Spectrem airborne geophysical targets. Since the Lynn Lake core library has limited storage space remaining, only the more significant regional exploration drillholes could be archived. Drill logs for 91 exploration drillholes were supplied by HBED and reviewed for results. Based on Manitoba’s drill core libraries acquisition policies, priority was given to retrieving and archiving representative holes from the three zinc-copper zones at Darrol Lake, south of Ruttan, and Spectrem airborne geophysical targets. Drillholes that tested Spectrem targets were chosen for archiving if

- encouraging base- or precious-metal values were intersected;
- the drill log reported intersecting volcanic rocks similar to Ruttan mine stratigraphy;
- the area of drilling contains extensive overburden cover; or
- the area has a low drilling density.

In total, 38 drillholes, comprising 939 boxes and totalling approximately 5380 m of core, were collected and archived in the Lynn Lake library. These drillholes will remain in confidential viewing status as long as the respective claim on which the drilling was conducted remains in good standing.

At the outset of planning the Ruttan core retrieval and archiving program, it was intended that personnel from the Ruttan geology department and HBED would select and archive a number of drillholes that would adequately represent the Ruttan deposit and area stratigraphy. This has been indefinitely postponed, since HBMS has decided not to reclaim the area containing the drill core. Instead, an earth berm, being constructed to enclose the Ruttan property, will incorporate the drill core storage area. It is hoped that this will aid in deterring vandalism to the drill core.

Other work carried out at Manitoba’s core libraries consisted of continued development of an inventory of the core holdings at the Centennial compound near Flin Flon. Approximately 90% of this core has now been inventoried and reorganized. Considerable work remains to be done to acquire the necessary background information for the majority of the Centennial drillholes. At The Pas core library, general building maintenance and inventory updating were completed. In Lynn Lake, personnel from the MGS Midland rock lab successfully stabilized the leaning interior core racks.

HOW TO USE MANITOBA’S CORE LIBRARIES

All five core libraries have lighted, heated inspection rooms with benches, and most have core splitters. Since the core libraries are not permanently manned, enquiries and requests for access to the northern libraries must be made to:

Dave Prouse, Resident Geologist
Manitoba Geological Survey
Manitoba Industry, Trade and Mines
143 Main Street, Suite 201
Flin Flon, MB R8A 1K2
Phone: (204) 687-1632
Email: dprouse@gov.mb.ca

Access to view core at the Brady Road facility in Winnipeg should be arranged with:

Jim Payne, Assessment Geologist
Mines Branch
Manitoba Industry, Trade and Mines
1395 Ellice Avenue, Suite 360
Winnipeg, MB R3G 3P2
Phone: (204) 945-6535
Email: jpayne@gov.mb.ca

Once permission has been granted to view nonconfidential core in a specific library, arrangements will be made for the user to obtain keys to gain access to that facility. In the case of Thompson and Flin Flon, keys can be obtained at the local ITM offices. Keys for access to The Pas and Lynn Lake core libraries will be made available at the local office of Manitoba Conservation.

The master file for drillhole logs, collar locations and assays for nonconfidential drill core holdings in The Pas, Lynn Lake and Flin Flon libraries are available for inspection at the ITM office in Flin Flon. The corresponding files for core stored in the Thompson and Winnipeg libraries are available for viewing at the ITM office in those locations.

Viewing, storage and sampling policy

Access to confidential drill core is allowed only with written permission from the company that holds the property. This information must be presented to the Resident Geologist in Flin Flon or the Assessment Geologist in Winnipeg prior to inspection (depending on the core library in question).

Core boxes placed in a library will be managed by ITM personnel. Removal of core boxes from the library premises is not permitted. Users wishing to examine core must be prepared to physically handle the core boxes and return them to the storage racks. Permission is required to sample core contained in any of the province's libraries. Assay results and pulps from these samples must be forwarded if requested. Quartering of previously sampled drill core is not permitted.

ACKNOWLEDGMENTS

The Ruttan core retrieval program could not have been a success without the knowledgeable support of Reg Yaworski of the HBMS Ruttan mine geology department, and Kelly Gilmore of HBED in Flin Flon. Student assistant Cody Peever is thanked for his hard work in moving Ruttan drill core and for his work at the Centennial and The Pas core libraries. The always dependable logistical support of Neill Brandson of the MGS is gratefully appreciated. Thanks are extended to Doug Berk, Vio Varga and assistants of the MGS Midland rock laboratory for completing the maintenance work on the Lynn Lake core racks.

REFERENCES

Prouse, D.E. 1989: Manitoba's drill core libraries system; Manitoba Energy and Mines, Minerals Division, Open File Report OF89-4, 44 p.