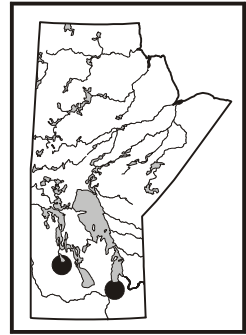


by H.D. Groom

Groom, H.D. 1999: Updating aggregate maps in R.M. of Ochre River and the capital region; in Report of Activities, 1999, Manitoba Industry, Trade and Mines, Geological Services, p. 123-124.



SUMMARY

Aggregate maps in the capital region and the R.M. of Ochre River have been updated. There are thirteen municipalities in the capital region. Of these, the maps for six were updated this summer, two had been recently updated and five municipalities have no aggregate deposits. Over one hundred and fifty gravel pits were site inspected. Geophysics and backhoe testing were used to define unopened deposits in the R.M. of Ochre River.

INTRODUCTION

In the early 1970s, the Department of Energy and Mines initiated a program specifically to manage the aggregate resources of the province. Up until that time aggregate deposits had been included on 1:250 000 scale Quaternary maps, but there was no systematic mapping at a scale suitable for resource management. The first priority was to map the aggregate deposits and pit locations in southern Manitoba at a scale of 1:50 000. Consulting companies and Department personnel mapped large areas in a relatively short period of time and, over the next fifteen years, the mapping of most of southern Manitoba was completed.

Much of the original mapping is now over twenty years old; deposits have been depleted and new deposits discovered. The Department has been updating the aggregate maps on a municipality by municipality basis, usually as required for inclusion in municipal development plans but also as other needs arise.

THE CAPITAL REGION

The capital region consists of the municipalities which surround the city of Winnipeg. These are the R.M.s of: Rockwood, Rosser, St. Andrews, St. Clements, East St. Paul, West St. Paul, Springfield, Tache, Ritchot, MacDonald, Cartier, St. Francois Xavier and Headingly (Fig. GS-29-1).

The city of Winnipeg is the major consumer of aggregate in the area. Transportation is the greatest part of aggregate costs, so ensuring an adequate supply of nearby aggregate is crucial to maintaining the city's infrastructure as well as promoting future growth. Given the trend to expanding "bedroom" communities outside the city's perimeter, mapping

the location of high-quality aggregate deposits in the region is essential.

The province of Manitoba has recently developed a sustainable development strategy for the capital region. Policy 4.3 states "Economically valuable mineral deposits shall be protected from land uses which limit mineral exploration and development". The implementation of this policy is carried out through municipal development plans and by policies under The Planning Act.

The bedrock of the capital region is currently being mapped by R. Bezys and J. Bamburak of the Geological Services Branch. The area north of 50° is completed and has been published on maps at a scale of 1:50 000. The near-surface bedrock and active quarries delineated on these maps are one of the two major sources of aggregate for the city of Winnipeg.

Summer, 1999

Aggregate maps for the R.M.s of Rockwood and Springfield were updated recently in conjunction with development plans for those municipalities. This summer, the sand and gravel maps of the remaining municipalities were updated. The following areas had previously been mapped: R.M. of Tache (Matile and Conley, 1979), R.M. of St. Clements (Groom, 1985), R.M. of St. Andrews (Mitchell, 1983) and R.M. of Rosser (Ringrose et al., 1977).

Office compilation of previously recorded data included:

- 1) transferring previously mapped deposits onto 1:20 000 township photomosaics,
- 2) compiling active pit locations from the Mines Branch quarry database as well as quarry lease and withdrawal locations and Crown vs. private ownership, and
- 3) compiling pit and sample locations from the Department of Highways Block files.

Field work consisted of site inspection of all known pits in order to determine the status of each deposit. Pits were examined for type of material, degree of depletion and active/inactive/depleted status. Unopened portions of deposits were inspected and land uses that would limit extraction noted. In all, over eighty sand and gravel pits in six municipalities in the capital region were visited this summer.

Figure GS-29-1 shows the areas of each municipality in the capital region where aggregate has recently been produced. Of these, the sand and gravel deposits of the R.M. of Springfield and the bedrock quarries of the R.M. of Rockwood are by far the most important sources of aggregate for the city of Winnipeg. The figure also highlights the lack of aggregate deposits south and southwest of Winnipeg. This area is underlain by thick basinal clays of Glacial Lake Agassiz.

RURAL MUNICIPALITY OF OCHRE RIVER

The R.M. of Ochre River lies between Lake Dauphin and Riding Mountain in Twps. 22 - 25 and Rges 16W and 17W (Fig. GS-29-2). Gartner Lee Associates (1978) originally mapped the area as part of a regional aggregate study carried out for the Department of Energy and Mines. The aggregate deposits are mostly beach ridges formed as Lake Agassiz receded from the area. In Twp. 22-17W a fan deposit formed when meltwater ponded on the mountain escaped to lower elevations as the ice retreated into the lowlands. This deposit has recently been opened for sand and gravel extraction. The beach deposits have been extensively mined but are still the major source of aggregate. The underlying bedrock is shale; it is not utilized as aggregate in the municipality.

Most of the sand and gravel extracted in Ochre River is for use within the municipality. Much of the gravel in the area is privately owned; the R.M. purchases most of its aggregate from these private sources. The R.M. has one quarry lease pending and itself owns one active pit. The R.M. is actively seeking new sources of gravel, preferring a crown-owned source in order to help control the cost of road maintenance.

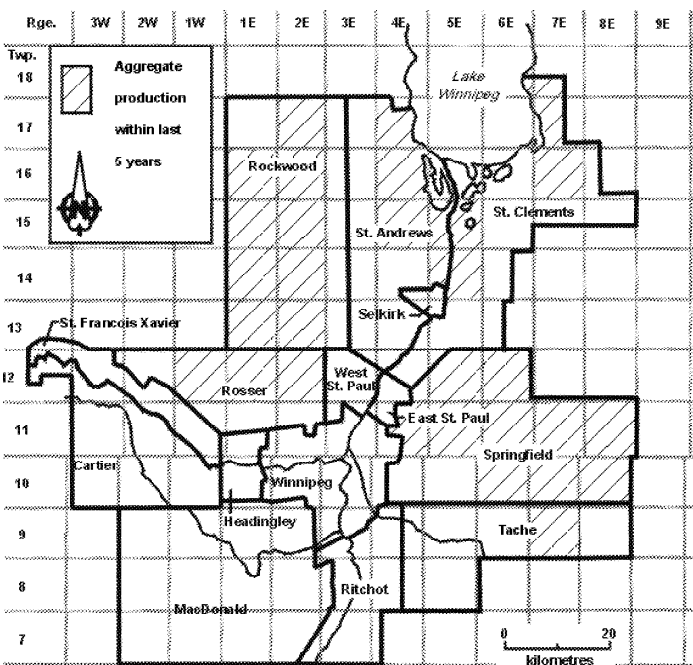


Figure GS-29-1: Aggregate producing areas of the capital region.

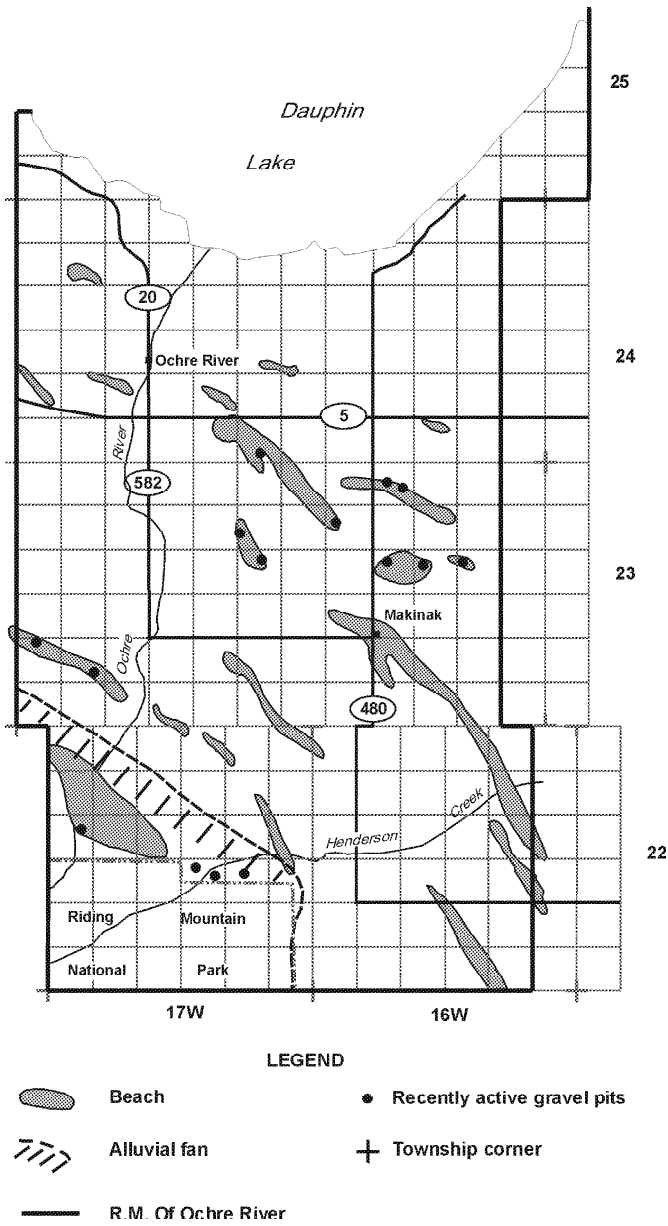


Figure GS-29-2: Active aggregate deposits in the R.M. of Ochre River; after Gartner Lee Assoc., 1978.

Summer, 1999

The aggregate maps for the R.M. were updated, with a particular emphasis on crown-owned sources. Office data compilation followed the same procedure as for the capital region. All existing pits were visited in the field and crown land was examined for aggregate potential. Active deposits in the adjacent municipalities were also visited.

The geological setting of two crown quarter-sections looked promising and, after site inspection, these were followed up with a backhoe-testing program. One of the quarter-sections was under heavy bush cover. I. Hosain of the Geological Services Branch used an EM31 to carry out a geophysical survey before a backhoe was brought in. The results of the survey indicated gravel and warranted backhoe testing. The EM31 worked well to define gravel but its length made it very awkward to use in bush cover.

Fifteen backhoe test pits were dug in the two locations. Samples are currently being processed by the Materials and Research Branch of the Department of Highways under the cooperative agreement initiated last year. Deposit location, pit logs and sample results will be available from the Department as an Open File later this fall.

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