



## Geology of the Fox River Sill in the Great Falls area, Fox River Belt, northeastern Manitoba (part of NTS 53M16)

### Legend

#### INTRUSIVE ROCKS

##### 3 Fox River Sill

**3b Lower Central Layered Zone: alternating massive dunite, wehrlite and lherzolite layers (10–95 m thick) and massive websterite and clinopyroxenite layers (3–10 m thick)**

**3b2** Websterite, clinopyroxenite

**3b1** Dunite, wehrlite, lherzolite

-- *Abrupt contact* --

**3a Marginal Zone (>300 m): Reverse-graded basal contact unit overlain by two normally differentiated ultramafic to mafic cyclic units**

**3a5** Subunit LG2: ~ 25 m thick; banded and layered; sulphide-bearing gabbro and leucogabbro; subordinate sulphide-bearing diorite bands

-- *Modally-graded contact* --

**3a4** Subunit UM2: ~ 60 m thick; sulphide-bearing orthopyroxenite (20 cm) grading upward into modally layered and locally sulphide-bearing harzburgite, lherzolite, websterite, plagioclase lherzolite and melagabbro; variably textured leucogabbro and diorite pods are locally developed in the lower part of the unit

-- *Abrupt contact, locally faulted or sheared* --

**3a3** Subunit LG1: ~ 60 m thick; gabbro grading upward into anorthositic and gabbro

-- *Abrupt contact* --

**3a2** Subunit UM1: ~ 35 m thick; lherzolite, websterite, clinopyroxenite; locally modally layered

-- *Abrupt contact* --

**3a1** Basal Contact Unit: ~ 65 m thick; fine-grained lower gabbro and diorite unit, locally containing siliceous xenomelt inclusions, grading upward to medium- to coarse-grained melagabbro, websterite and lherzolite

-- *Abrupt contact* --

#### SUPRACRUSTAL ROCKS

##### 2 Middle Sedimentary Formation

**2** Thinly bedded mudstone, pyritic mudstone and siltstone; local turbiditic greywacke

##### 1 Lower Volcanic Formation: massive basalt and komatiitic basalt, minor interflow mudstone

**1b** Massive flows

**1a** Pillowed flows

#### Symbols

- |  |                  |  |                                       |
|--|------------------|--|---------------------------------------|
|  | Bedding          |  | Contact; defined, assumed, underwater |
|  | Pillow top       |  | Fault                                 |
|  | Flow contact     |  | Outcrop                               |
|  | Igneous layering |  |                                       |
|  | Foliation        |  |                                       |
|  | Columnar joint   |  |                                       |

#### Geology by:

G. Desharnais<sup>1</sup>, D.C. Peck<sup>2</sup>, L. Potter<sup>2</sup>, M. Huminicki<sup>1</sup>, R.F.J. Scoates<sup>4</sup>, P. Theyer<sup>3</sup>,  
C. Wegleitner<sup>1</sup>, G. Kohut<sup>1</sup>, P. Smerchanski<sup>1</sup>, D. Benson<sup>1</sup>, C. Petch<sup>2</sup> and  
G. DeSchutter<sup>2</sup>

Affiliations at the time mapping was undertaken (2001):

<sup>1</sup> Department of Geological Sciences, University of Manitoba, Winnipeg, Manitoba

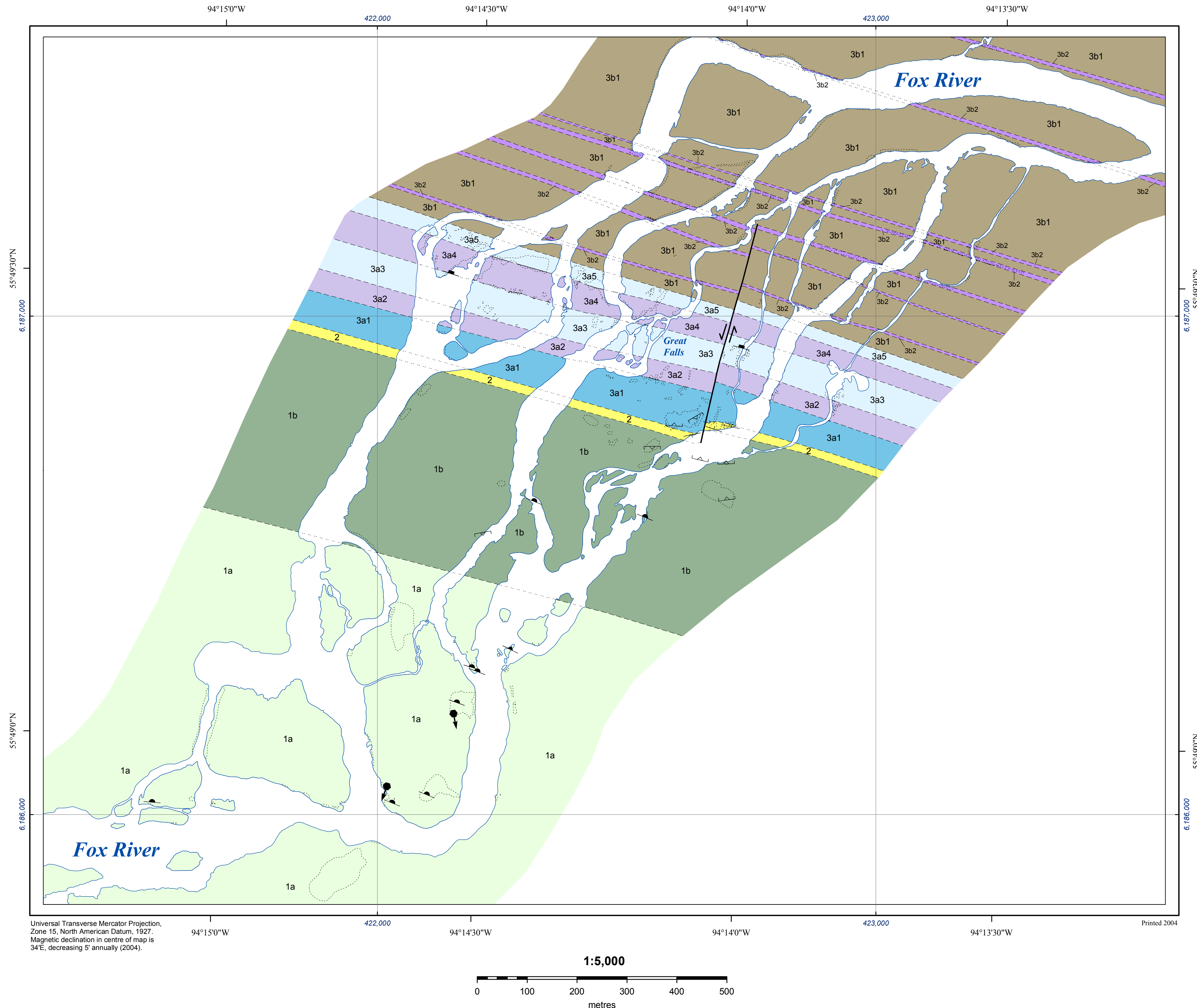
<sup>2</sup> Falconbridge Limited, Western North America Exploration Office, Winnipeg, Manitoba

<sup>3</sup> Manitoba Geological Survey, Winnipeg, Manitoba

<sup>4</sup> Consultant, Ottawa, Ontario



Completion of this map was made possible with the expertise and financial assistance of Falconbridge Limited.



Universal Transverse Mercator Projection,  
Zone 15, North American Datum, 1927.  
Magnetic declination in centre of map is  
34°E, decreasing 5' annually (2004).

Printed 2004