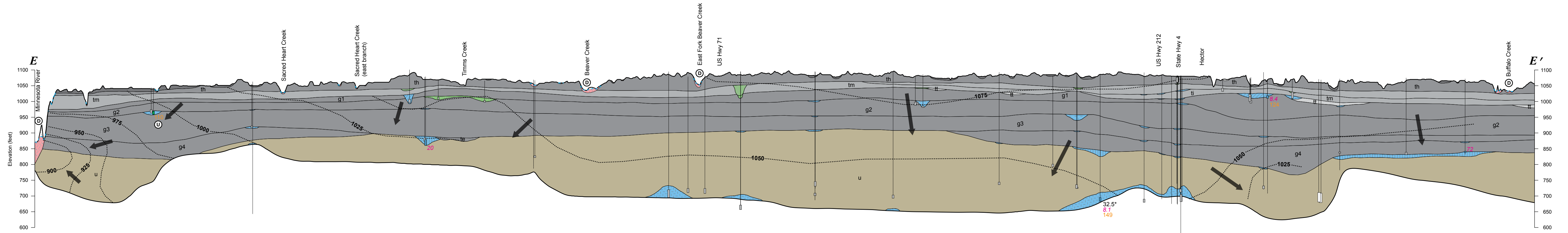


Hydrogeologic Cross Sections

By Randy J. Bradt

2017

To accompany these atlas components
Report, Map Figures 1-27, Plates 6-7



CROSS SECTION EXPLANATION

Aquifers and aquitards grouped by stratigraphy

See Report Figure 1 for geologic unit correlation.
Interpreted tritium age is indicated by background color

Quaternary unconsolidated sediment

Surficial sand and gravel

Buried aquifers and aquitards

hi*
l*
th*si
ti*sm
tm*st
tt*g1*s2
g2*s3
g3*s4
g4*te*su
Undifferentiated sediment (u)
sz
Unknown (UNKN)
*aquitard

Interpreted tritium age is indicated by pattern color

Bedrock

Recent: water entered the ground since about 1953 (8 to 15 tritium units [TU]).

Mixed: water is a mixture of recent and vintage waters (greater than 1 TU to less than 8 TU).

Vintage: water entered the ground before 1953 (less than or equal to 1 TU).

Well not sampled for tritium.

17.2' Chloride concentration. If shown, chloride concentration equals or exceeds 5 parts per million and bromide concentration equals or exceeds 0.07 part per million. (* indicates naturally elevated values)

8.7 If shown, arsenic concentration equals or exceeds 5 parts per billion.

110 If shown, manganese concentration equals or exceeds 100 parts per billion.

1.98 If shown, nitrate concentration equals or exceeds 1 part per million.

8000 If shown, groundwater residence time in years as estimated by carbon-14 (¹⁴C) isotope analysis.

General groundwater flow direction

Approximate equipotential contour; contour interval 25 feet

Geologic contact

Land or bedrock surface

Water table

Pumping well

Groundwater conditions

Groundwater discharges to a surface-water body.

Groundwater flowpath is unknown (deep groundwater, recent or mixed tritium age).

Quaternary aquitards

Grouped by texture ranging from highest to lowest sand content indicating relative hydraulic conductivity.

Geologic unit code

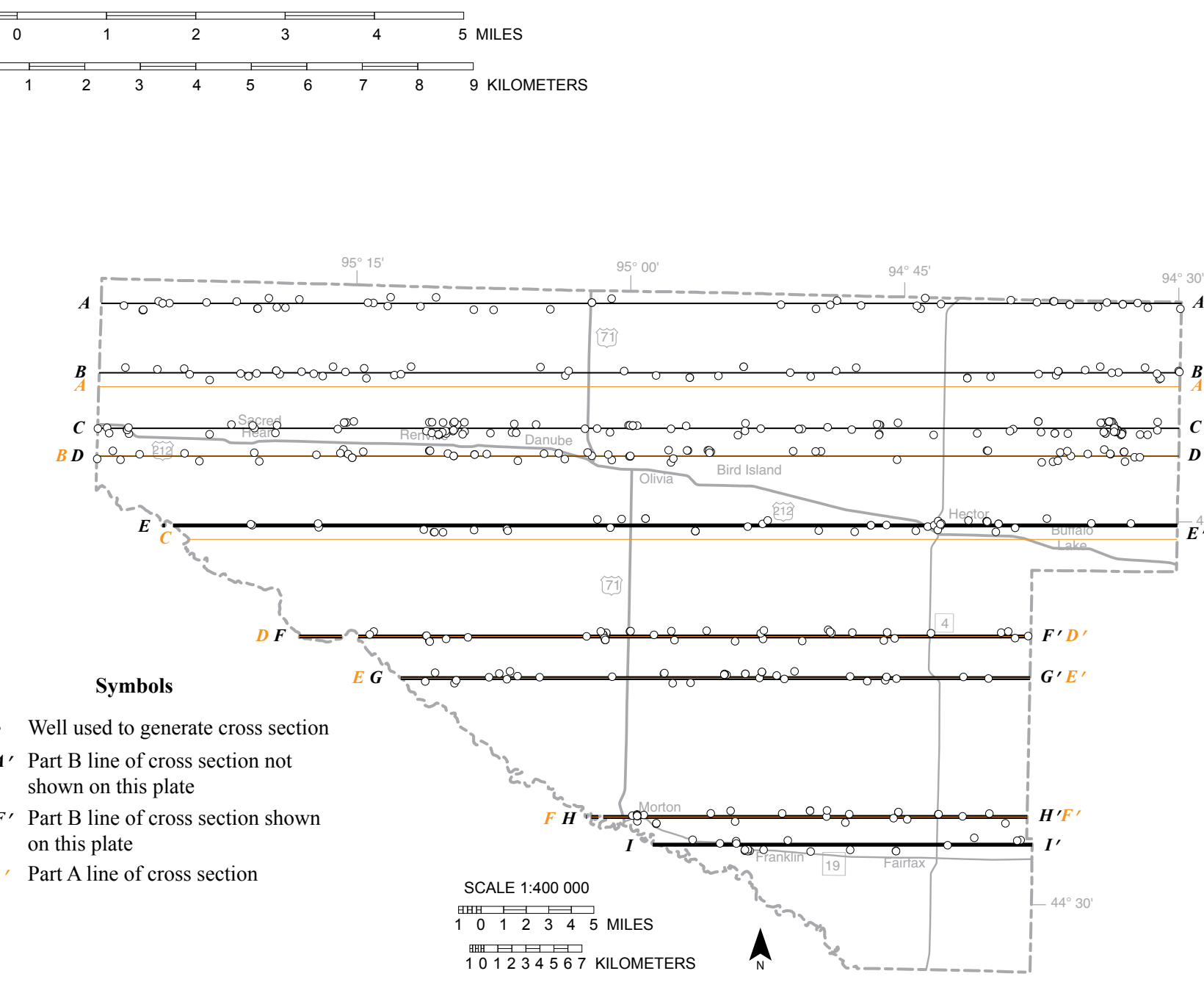
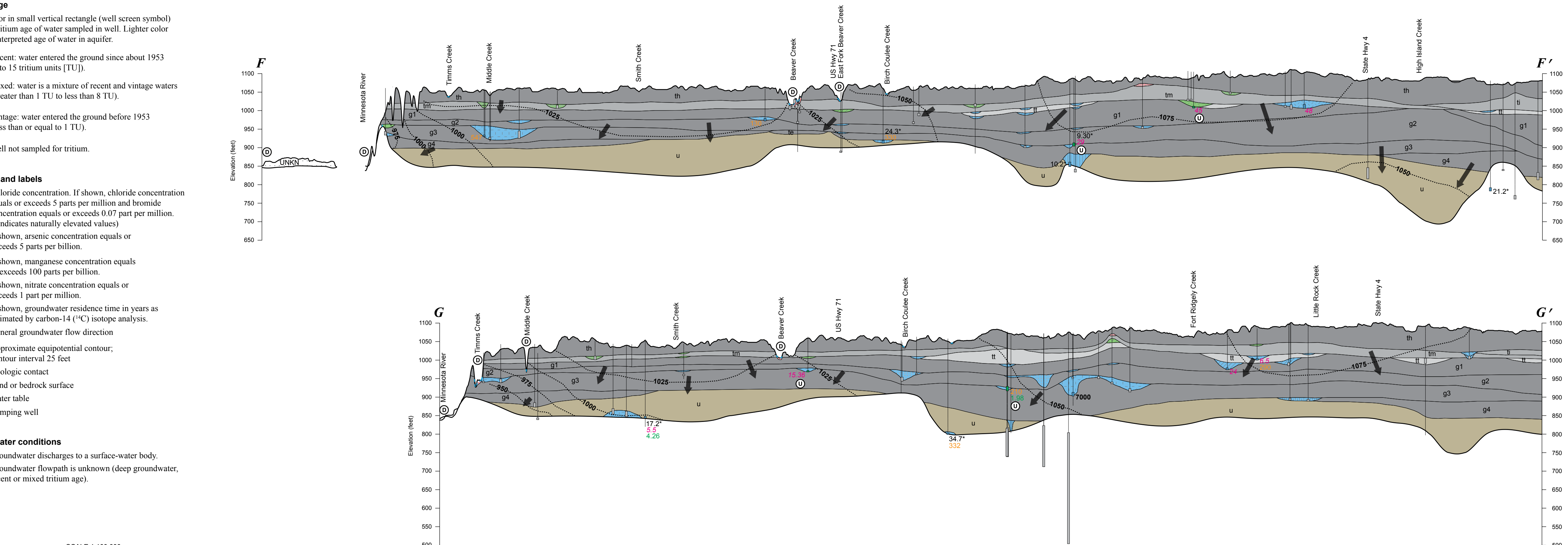
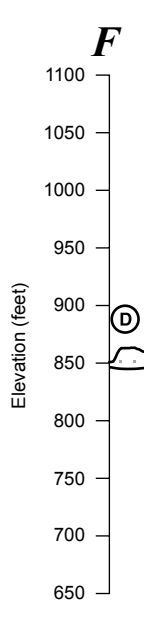
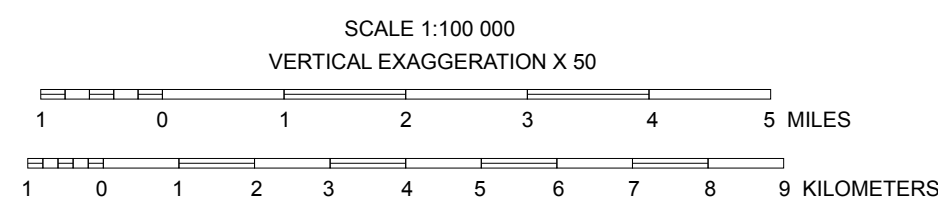
Percent sand

tt >50% and ≤60%

ti, tm >40% and ≤50%

th, g1, g2, g3, g4, te >30% and ≤40%

hi, l ≤30%



Symbols

Well used to generate cross section

Part B line of cross section not shown on this plate

Part B line of cross section shown on this plate

Part A line of cross section

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This map was compiled and generated in a geographic information system. Digital data products are available from the DNR County Geologic Atlas Program at mndnr.gov/groundwater/mapping.

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Base modified from Minnesota Geological Survey, Renville County Geologic Atlas, Part A, 2013.

Universal Transverse Mercator projection, zone 15N, North American Datum of 1983.

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