STATE OF MINNESOTA
DEPARTMENT OF NATURAL RESOURCES
ECOLOGICAL AND WATER RESOURCES DIVISION

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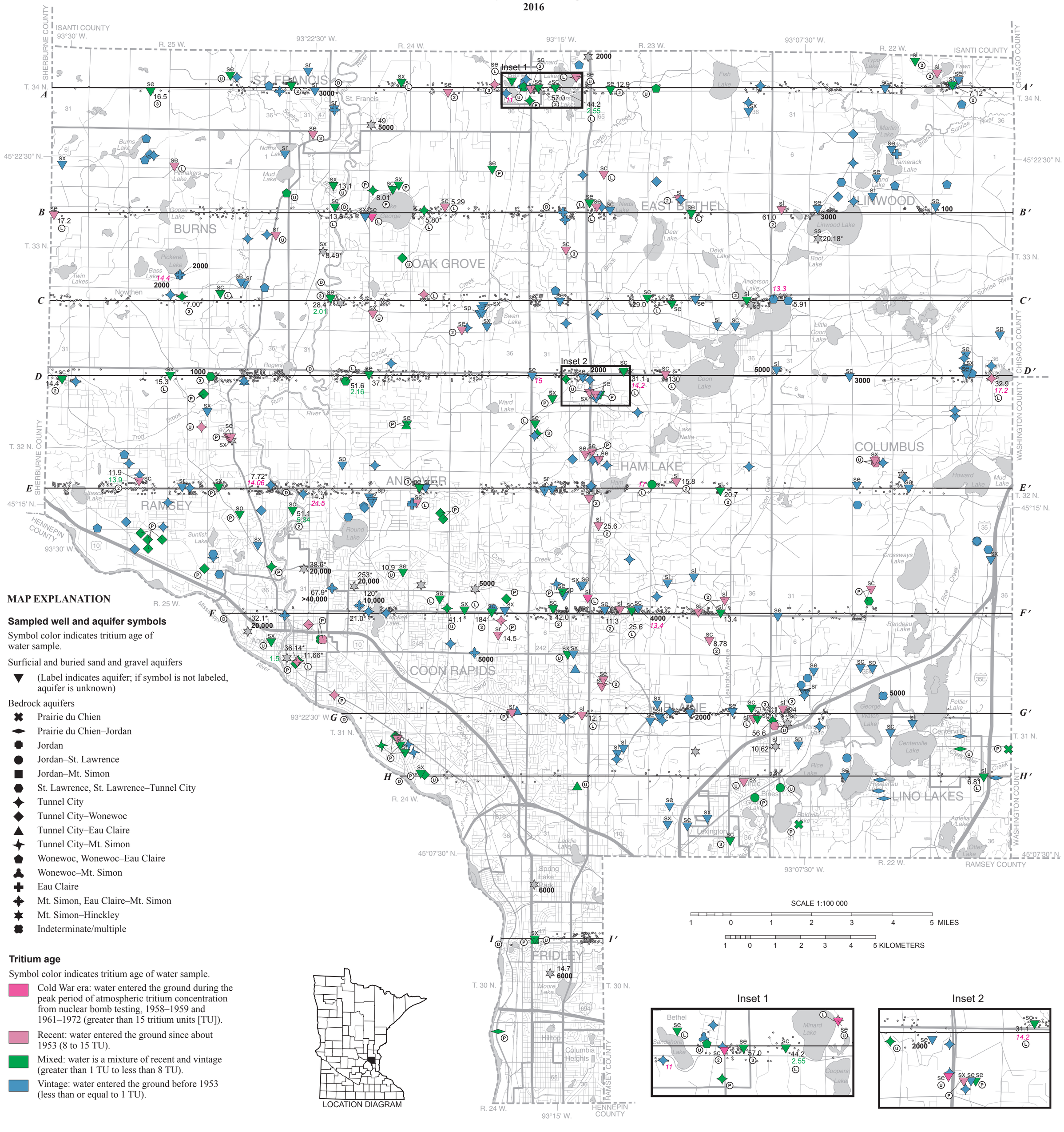
COUNTY ATLAS SERIES
ANOKA COUNTY
ATLAS C-27, PART B, PLATE 7 of 9
Water Chemistry

Water Chemistry

By James A. Berg

2016

To accompany atlas Report and Plate 8 and Plate 9.



MAP EXPLANATION

Sampled well and aquifer symbols

Symbol color indicates tritium age of water sample.

Surficial and buried sand and gravel aquifers

▼ (Label indicates aquifer; if symbol is not labeled, aquifer is unknown)

Bedrock aquifers

- ✖ Prairie du Chien
- ⬬ Prairie du Chien–Jordan
- ⬢ Jordan
- ● Jordan–St. Lawrence
- ■ Jordan–Mt. Simon
- ⬣ St. Lawrence, St. Lawrence–Tunnel City
- ✦ Tunnel City
- ◆ Tunnel City–Wonewoc
- ▲ Tunnel City–Eau Claire
- ✦ Tunnel City–Mt. Simon
- ⬟ Wonewoc, Wonewoc–Eau Claire
- ♣ Wonewoc–Mt. Simon
- ✚ Eau Claire
- ✦ Mt. Simon, Eau Claire–Mt. Simon
- ★ Mt. Simon–Hinckley
- ⬣ Indeterminate/multiple

Tritium age

Symbol color indicates tritium age of water sample.

- Cold War era: water entered the ground during the peak period of atmospheric tritium concentration from nuclear bomb testing, 1958–1959 and 1961–1972 (greater than 15 tritium units [TU]).
- Recent: water entered the ground since about 1953 (8 to 15 TU).
- Mixed: water is a mixture of recent and vintage (greater than 1 TU to less than 8 TU).
- Vintage: water entered the ground before 1953 (less than or equal to 1 TU).

Groundwater conditions

- ② Groundwater moves from an overlying surficial aquifer to a buried aquifer.
- ③ Groundwater moves from an overlying buried aquifer to an underlying buried aquifer.
- Ⓛ Groundwater flows laterally.
- Ⓟ Tritium concentrations may be artificially elevated by high capacity pumping.
- Ⓤ Groundwater flowpath is unknown.

Symbols and labels

- ◦ Well used to generate cross section
- 6.4 If shown, chloride concentration equals or exceeds 5 parts per million. (* indicates naturally elevated values)
- *13.4* If shown, arsenic concentration equals or exceeds 10 parts per billion.
- 6.1 If shown, nitrate-nitrogen concentration equals or exceeds 1 part per million.
- **8000** If shown, groundwater residence time in years as estimated by carbon-14 (^{14}C) isotope analysis.
- ***B*—*B′*** Line of cross section
- Body of water

LOCATION DIAGRAM

SCALE 1:100 000

1 0 1 2 3 4 5 MILES

1 0 1 2 3 4 5 KILOMETERS

Inset 1

Inset 2

Maps were compiled and generated in a geographic information system (GIS). Digital data products, including chemistry data, are available from the Minnesota Department of Natural Resources (DNR), Ecological and Water Resources Division (mndnr.gov/groundwatermapping).

This map was prepared from publicly available information. Every reasonable effort has been made to ensure the accuracy of the factual data on which this map interpretation is based. However, the DNR does not warrant the accuracy, completeness, or any implied uses of these data. Users may wish to verify critical information; sources include both the references in the report and information on file in the offices of the Minnesota Geological Survey and the DNR. Every effort has been made to ensure the interpretation shown conforms to sound geologic and cartographic principles. This map should not be used to establish legal title, boundaries, or locations of improvements.

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

Universal Transverse Mercator projection, zone 15N, North American Datum of 1983. North American Vertical Datum of 1988.

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mndnr.gov/groundwatermapping

GEOLOGIC ATLAS OF ANOKA COUNTY, MINNESOTA