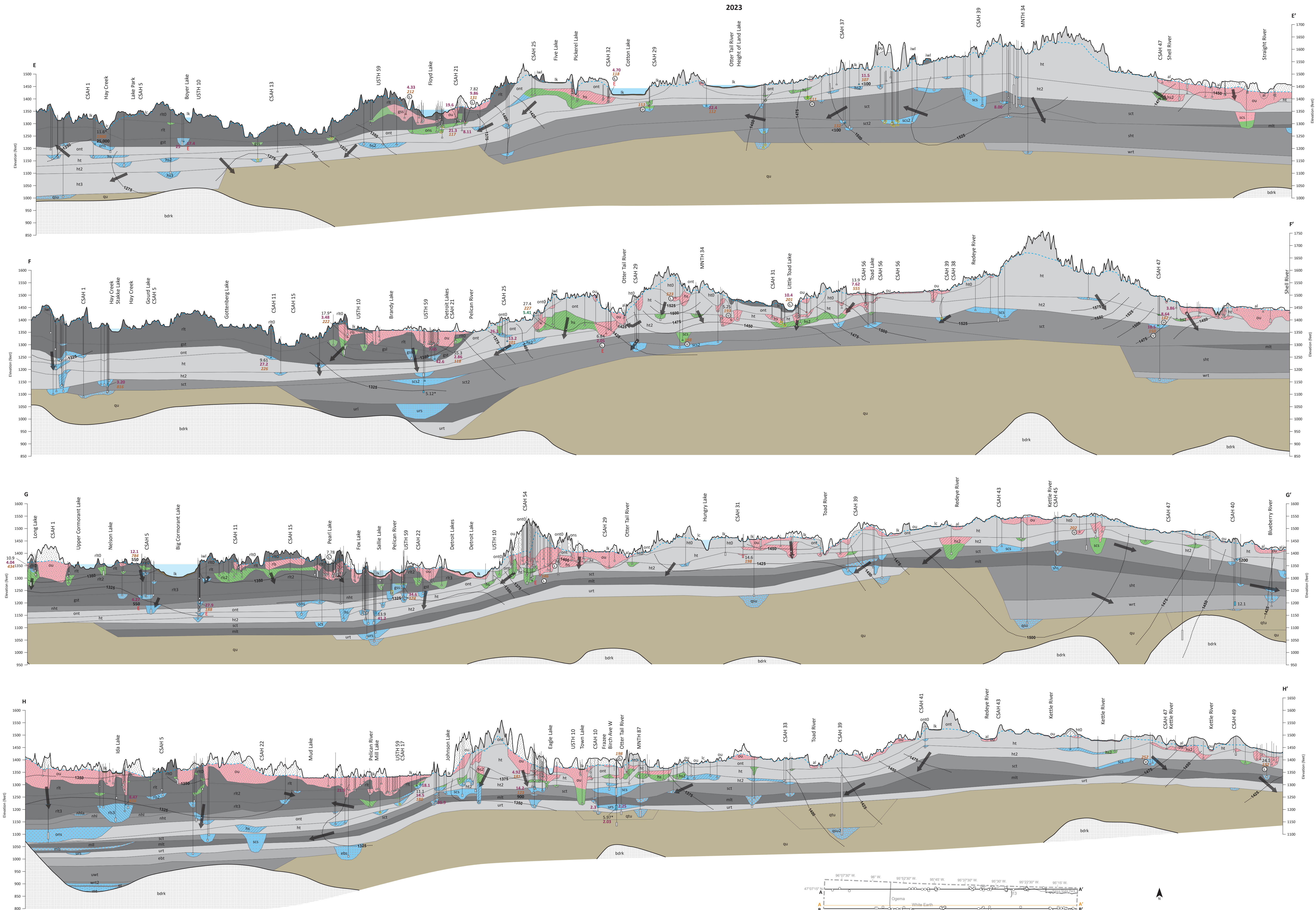


Hydrogeologic Cross Sections

By Randy J. Bradt



To accompany atlas [Report](#) and [Plate 7](#) and [Plate 8](#).

Cross Section Explanation

Aquifers and aquitards
Interpreted tritium age is indicated by background color.

Quaternary unconsolidated
See Figure 2 in the report for geologic unit correlation

lk
al
lc
ou
iwl
rit0
rls
rit
rls2
rit2
rls3
rit3
gss0
gsl
gss
gst
nhla
nhsa
nhl
nhs
nht
ont0
ons
ont
ht0
hs
ht
hs2
ht2

Bedrock





Quaternary aquitards

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

Geologic unit code	Percent sand
ht0, ht, ht2, ht3, mt, ont0, ont, urt	>50% and ≤60%
ebt, wrt	>40% and ≤50%
et, nhl, nhla, nht, sct, sct2, sht, uw, wrt2	>30% and ≤40%
gsl, gst, iwl, lc, mll, mlt, rlt0, rlt, rlt2, rlt3, url	≤30%

Tritium age

Darker color in small vertical rectangle (well screen symbol) indicates tritium age of water sampled in well. Lighter color indicates interpreted age of water in aquifer.

-  Modern: water entered the ground after 1953.
-  Mixed: water is a mixture of modern and premodern waters.
-  Mostly premodern*: water likely entered the ground before 1953 but may contain a small amount of modern water.
-  Well not sampled for tritium.

*These samples are referred to as "premodern" in the report. Both "mostly premodern" and "premodern" are shown on plates and figures for consistency with the dataset.

Symbols and labels



55.3 Chloride: if shown, concentration is ≥ 5 ppm.
(' naturally sourced, ' source not determined)

2.86 Arsenic: if shown, concentration is ≥ 2 ppb.

5.18 Manganese: if shown, concentration is ≥ 100 ppb.

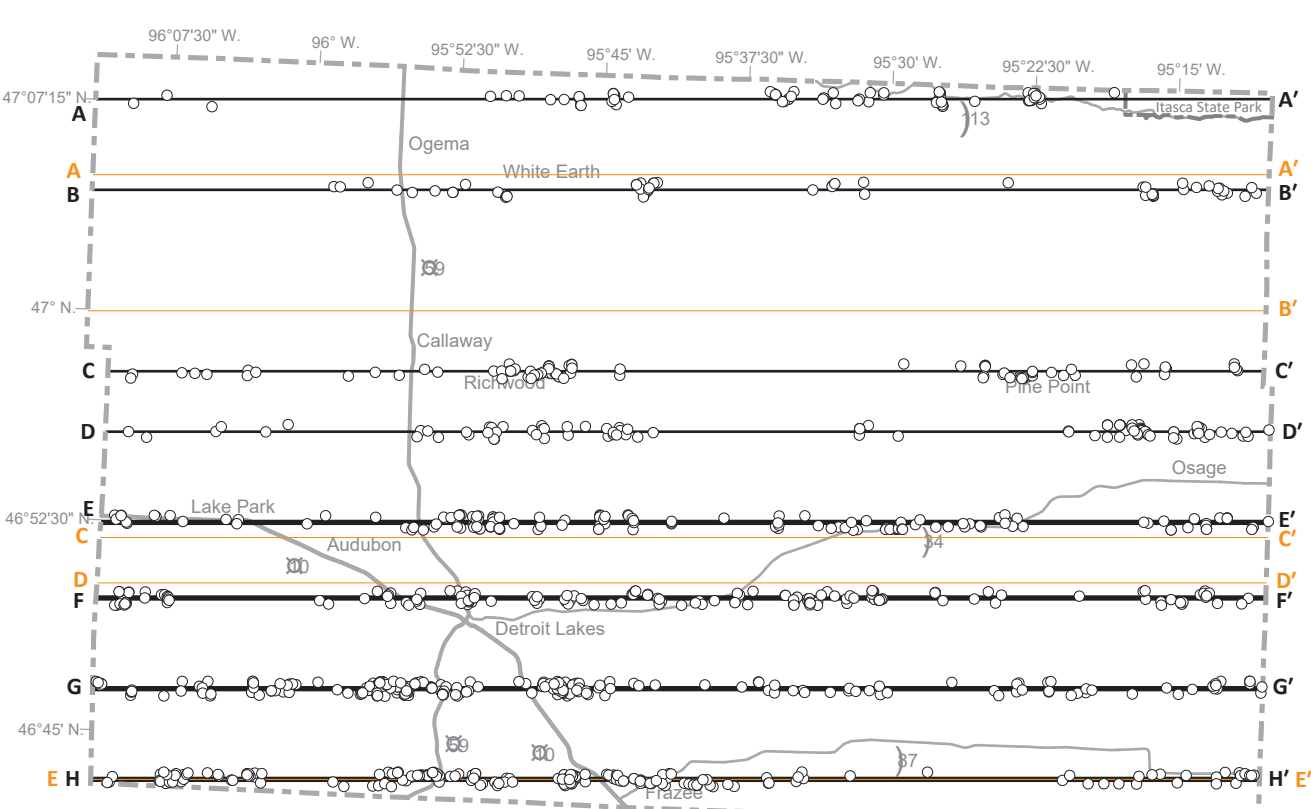
5.41 Nitrate: if shown, concentration is > 1 ppm.

550 Carbon-14 (^{14}C): estimated groundwater residence time in years

 General groundwater flow direction
 1500... Approximate equipotential contour; contour interval 25 feet
 — Geologic contact
 — Land or bedrock surface
 - - - Water table
 Flowing well

Groundwater conditions

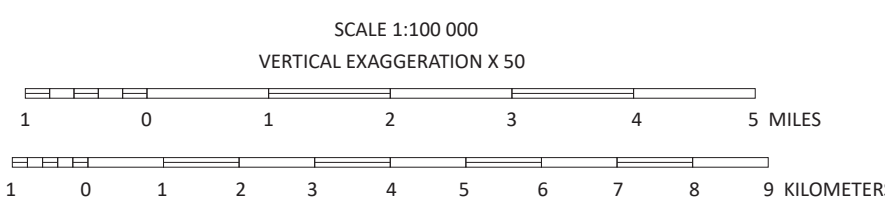
- Ⓒ Lateral flow: aquifer may have received lateral recharge from upgradient areas of higher pollution sensitivity.
- Ⓓ Unknown: neither the pollution sensitivity model nor groundwater conditions explained the presence of mixed or modern tritium-age water.



SCALE 1:500 000

Symbols

- Well used to generate cross section
- A — A' Part B line of cross section shown on Plate 8
- E — E' Part B line of cross section shown on this plate
- A — A' Part A line of cross section



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Base modified from Minnesota Geological Survey, Geologic Atlas of Becker County, 2016.
Universal Transverse Mercator projection, zone 15N, North American Datum of 1983.
North American Vertical Datum of 1988.

