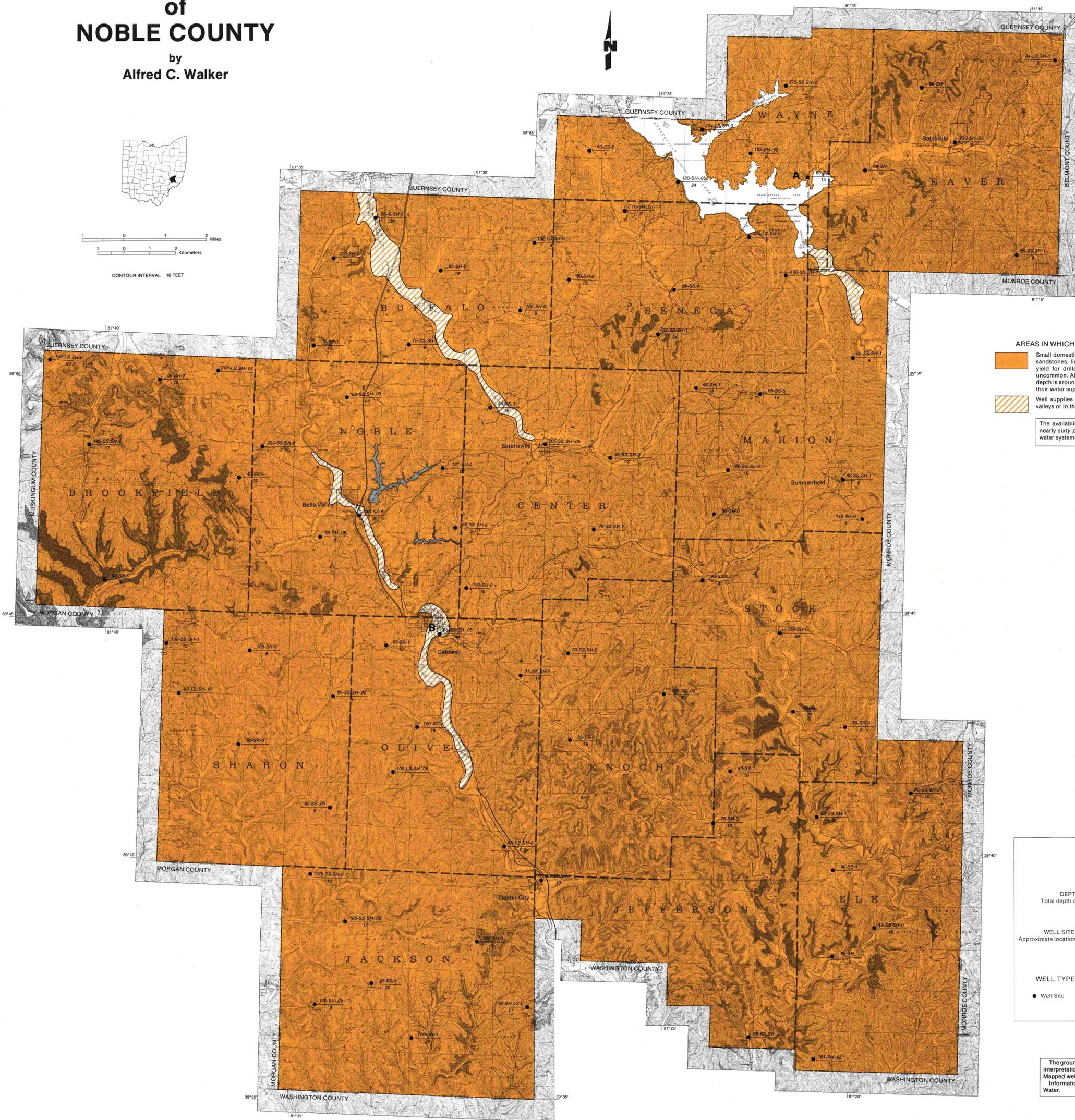


# Ground-Water Resources of NOBLE COUNTY

by  
Alfred C. Walker



CONTOUR INTERVAL 10 FEET



- County Line
- Township Line
- Incorporated City Limit

### Well Yields

- AREAS IN WHICH YIELDS SELDOM EXCEED THREE GALLONS PER MINUTE**
- Small domestic supplies are obtained from wells drilled into alternating layers of thin sandstones, limestones and sandy shales of the Pennsylvanian system. The average yield for drilled wells is less than two gallons per minute and dry holes are not uncommon. Although wells range from 30 feet to more than 250 feet deep, the average depth is around 95 feet. Many homes must rely upon dug wells, cisterns and springs for their water supply.
  - Well supplies are meager, whether they are developed in the shallow fill of stream valleys or in the underlying sandstone and shale bedrock.

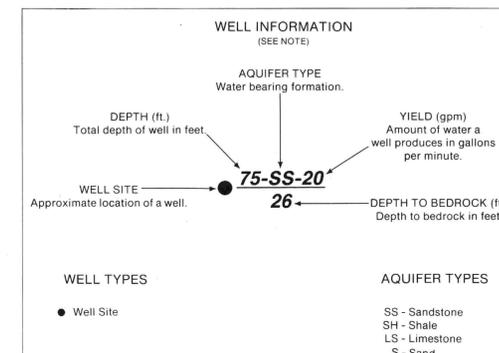
The availability of ground water in Noble County is very limited. For this reason, nearly sixty percent of the population is supplied by surface water through regional water systems serving portions of eight townships.

### Chemical Analysis Table

Well Site	A	B
Calcium (Ca)	99.00	44.00
Chloride (Cl)	12.00	2.00
Fluoride (F)	.10	.30
Hardness (CaCO <sub>3</sub> )	325.00	148.00
Iron (Fe)	1.10	2.20
Magnesium (Mg)	19.00	9.20
Manganese (Mn)	.26	.37
Sodium (Na)	15.00	6.50
Sulfate (SO <sub>4</sub> )	44.00	31.00
Dissolved Solids	393.00	180.00

Chemical constituents as milligrams per liter (mg/l)

### Well Site Symbols



### Note

The ground-water characteristics have been mapped regionally, based upon interpretations of water well records and the area's geology and hydrology. Mapped well sites were selected as typical for the areas shown. Information regarding specific sites may be obtained from the Division of Water.