

GEOLOGY AND GROUND WATER

GENERAL AND GROUND WATER

Ground-water availability in the lower stream basins is related primarily to the nature of the geology and the amount of precipitation in the basins. In the Huron, Raisin, and Detroit basins, the geology is primarily of glacial drift, and the precipitation is high. In the St. Clair, Rouge, and Pine River basins, the geology is primarily of bedrock, and the precipitation is low. In the Black River basin, the geology is primarily of bedrock, and the precipitation is high.

The general types of geology, structural features, and glacial deposits are indicated by the following symbols and colors:

- Glacial drift: Yellow, green, and blue.
- Bedrock: Red, purple, and brown.
- Structural features: Black lines.
- Glacial features: Dotted lines.

The amount of precipitation in the basins is indicated by the following symbols and colors:

- High precipitation: Red and purple.
- Low precipitation: Yellow and green.

The amount of ground water in the basins is indicated by the following symbols and colors:

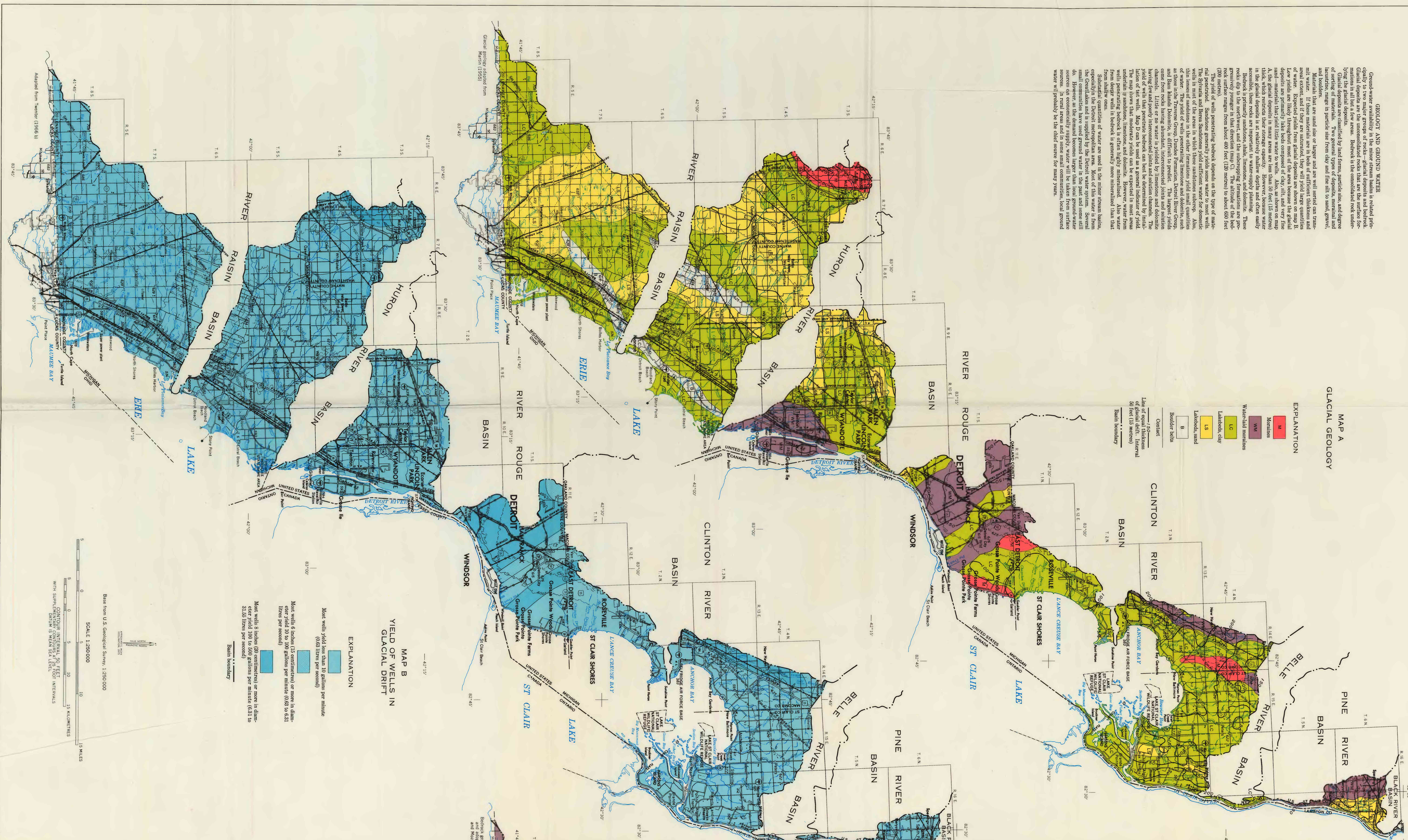
- High ground water: Red and purple.
- Low ground water: Yellow and green.

MAP A
GLACIAL GEOLOGY

EXPLANATION

- Mc Moraine
- WV Waterfall
- LA Lateral moraine
- LS Lateral moraine
- B Boulder
- Contour

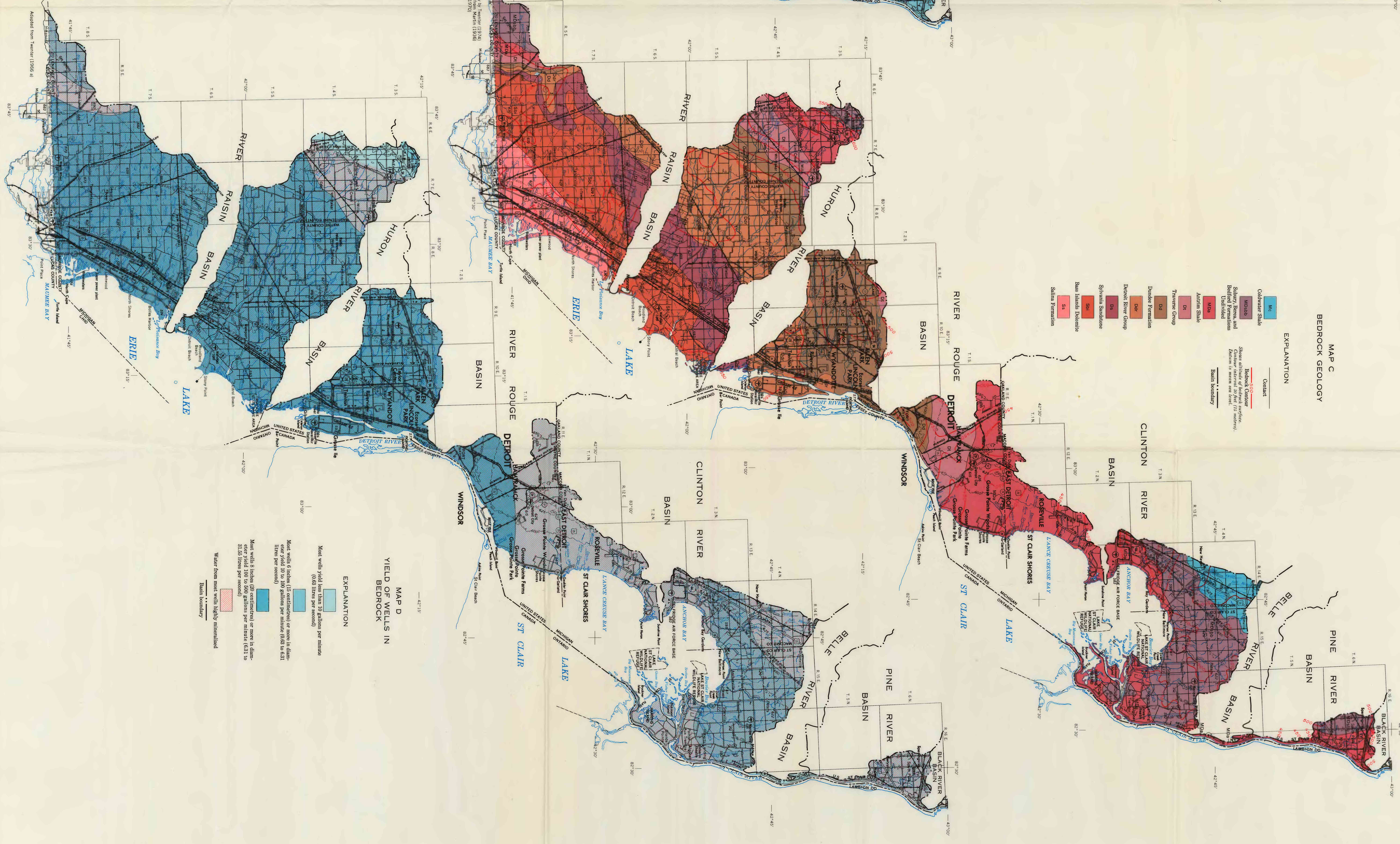
Scale of ground water yield (gallons per minute per well) (100 feet (15 meters) diameter)



MAP C
BEDROCK GEOLOGY

EXPLANATION

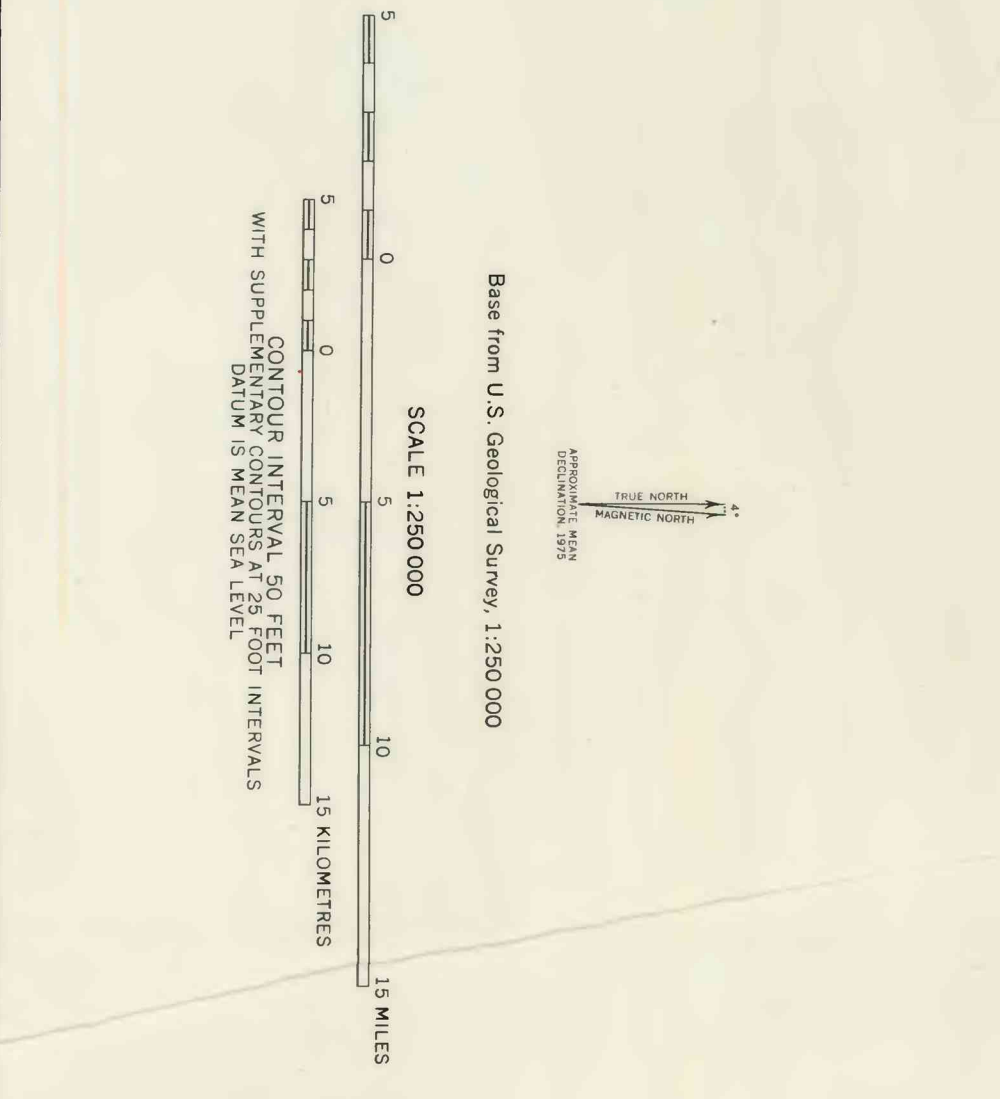
- Mc Cambrian Shale
- WV Silurian, Devonian, and Carboniferous
- LA Silurian, Devonian, and Carboniferous
- LS Silurian, Devonian, and Carboniferous
- B Silurian, Devonian, and Carboniferous
- Contour



MAP B
YIELD OF WELLS IN
GLACIAL DRIFT

EXPLANATION

- Light blue: Most wells yield less than 10 gallons per minute (6.8 liters per minute)
- Medium blue: Most wells yield 10 to 200 gallons per minute (6.8 to 68.3 liters per minute)
- Dark blue: Most wells yield 200 to 500 gallons per minute (68.3 to 338.2 liters per minute)
- Red: Water from most wells is highly mineralized



MAP D
YIELD OF WELLS IN
BEDROCK

EXPLANATION

- Light blue: Most wells yield less than 10 gallons per minute (6.8 liters per minute)
- Medium blue: Most wells yield 10 to 200 gallons per minute (6.8 to 68.3 liters per minute)
- Dark blue: Most wells yield 200 to 500 gallons per minute (68.3 to 338.2 liters per minute)
- Red: Water from most wells is highly mineralized



WATER RESOURCES OF BASINS FOR MINOR STREAMS DRAINING INTO ST. CLAIR RIVER, LAKE ST. CLAIR, DETROIT RIVER, AND LAKE ERIE, SOUTHEASTERN MICHIGAN

By
F. R. Twentier, R. L. Knudsen, and T. R. Cummings

1975