



## EXPLANATION

- Quaternary System**
- Wisconsinan to Recent**
    - Qal**  
Alluvium and terrace deposits  
Silt, sand, and gravel with minor amounts of clay in or near channels of major streams. Yields small to medium quantities of water to wells.
    - Qd**  
Dune sand  
Fine sand and silt with minor amounts of clay in upland areas. Generally lies above potentiometric surface.
  - Illinoian**
    - Qlc**  
Loveland and Crete Formations  
Sand and gravel in lower part; sand and silt in upper. Contains clay lenses and caliche locally. Yields small to medium quantities of water to wells.
  - Kansan**
    - Qsg**  
Sappa and Grand Island Formations  
Sand and gravel with minor amounts of silt and clay lenses in lower part. Sand, silt, and minor amounts of gravel, clay, and caliche in upper part. Locally contains a lens of Peartlet volcanic ash near top. Yields large quantities of water to wells.

- Contact**  
Approximately located
- A — A'**  
Geologic section  
Sections shown on plate 2
- x**  
Gravel pit
- ▲**  
Ash deposit
- 1800—**  
Potentiometric contour  
Shows altitude at which water level would have stood in tightly cased wells in Quaternary deposits, 1964. Contour interval 20 feet. Datum is mean sea level.

- Upper number is depth to water, in feet below land surface. Lower number is altitude of potentiometric surface, in feet above mean sea level. P indicates perched water table.
- Domestic, stock, or unused well
- Municipal or public supply well
- Industrial supply well
- Irrigation well
- Test hole
- Observation well
- 2 2**  
Numerals indicate number of wells at same location

APPROXIMATE MEAN DECLINATION, 1972  
 Scale 1:84 480

Base from State Highway Commission of Kansas, 1962, and U.S. Geological Survey, 1959

Prepared by the State Geological Survey of Kansas and the United States Geological Survey, with the cooperation of the Division of Water Resources of the Kansas State Board of Agriculture and the Division of Environmental Health of the Kansas State Department of Health.

Geology by D. W. Berry, 1951, and D. W. Layton, 1964. Potentiometric contours by D. W. Layton, 1964.