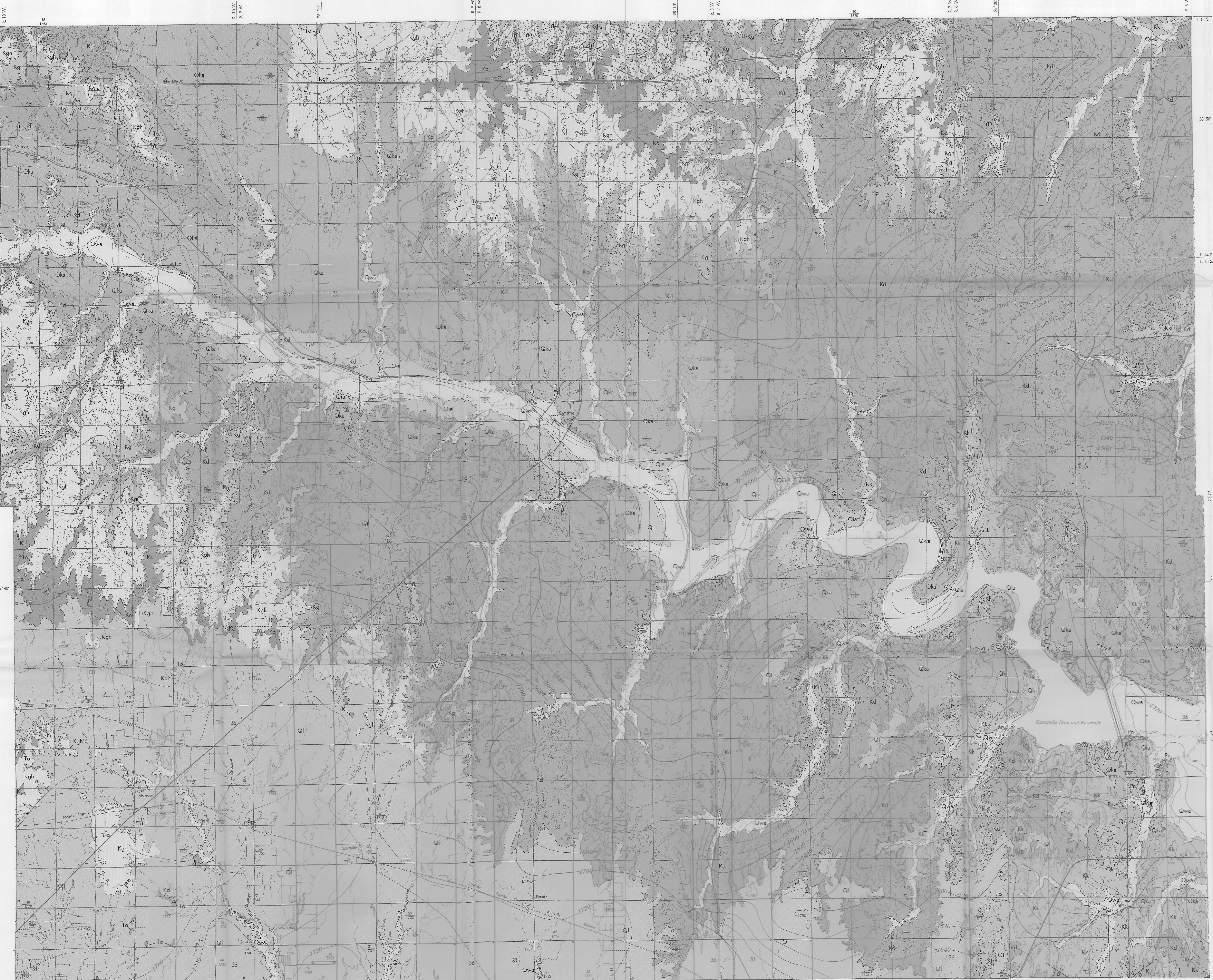


GEOHYDROLOGIC MAP OF ELLSWORTH COUNTY, KANSAS



EXPLANATION

Qwa

Recent alluvium and Wisconsinan fluvial deposits
Streambed deposits of clay, silt, sand, and gravel along principal streams. Wisconsinan age deposits occur in a terrace position to the present stream. Yields moderate quantities of water to wells in principal stream valleys and smaller quantities in tributary valleys.

Ql

Loess

Silt, mostly colluvial. Principally levelled loess of Wisconsin age and Pleistocene loess of Wisconsin age but may contain some Biggell loess of Wisconsin age. Locally present in thin deposits in upland areas and overlies fluvial deposits in abandoned channel areas. Yields no water to wells.

Qka

Loveland and Crete Formations

Alluvial deposits of Wisconsin age in terrace position to younger deposits in principal valleys. Composed of clay, silt, sand, and gravel. Yields small to moderate quantities of water to wells in the major valleys.

Qka

Sappa and Grand Island Formations

Streambed deposits of Kansas age consisting of clay, silt, sand, and gravel, and minor amounts of volcanic ash. In terrace position to younger deposits in Smoky Hill River valley and present in lower part of Wilson valley and abandoned channels in southwestern part of county. Locally includes the Fullerton and Hodge Formations of Nebraska age. Yields small to moderate quantities of water to wells locally.

To

Ogallala Formation

Silt with distinctive pink banding occurring as thin deposits marking topography at end of Pleistocene. Yields no water to wells.

Kc

Carlile Shale

Chalky shale, yellowish-gray to dark-gray, containing persistent beds of chalky limestone and nodular shaly limestone in the lower part. Thin but persistent nearly white, weathering to yellowish orange, bentonite seams are present in the formation. Only the lower part of the Carlile is present in the county. Yields no water to wells.

Kgh

Greenhorn Limestone

Limestone, chalky shale, and chalk, thin-bedded, yellowish-gray to gray, and yellowish-orange bentonite. Yields small quantities of water from upper weathered part in local areas.

Kg

Graneros Shale

Shale and clay shale, fissile, largely micaceous, dark-gray to bluish-black on fresh surface, weathering to yellowish brown. Contains thin sandstone beds throughout and locally thin fossiliferous limestone beds. Contains a thin but persistent bentonite bed near the top. Yields small quantities of water locally from sandstone beds.

Kd

Dakota Formation

Clay, silt, shale, sandstone, and siltstone, locally cemented with hematite and limonite. Contains lignite and locally beds of quartzitic sandstone. Colors are white, red, gray, brown, and tan. Yields small to moderate quantities of water to wells from sandstone beds.

Kk

Kiowa Formation

Shale, fissile, light-gray, dark-gray, and black. Contains thin sandstone bodies throughout and a persistent thick light-colored sandstone at top. Beds of cone-concretion, quartzitic sandstone, siltstone, and thin limestone are common. A marine molluscan fauna occurs in the limestone. Yields small to moderate quantities of water to wells from the sandstone.

Pn

Ninnescah Shale

Shale and siltstone, reddish-gray and gray. Poorly exposed in the county. Yields no water to wells.

Contact

Dashed where approximately located

U

D

Fault

U, upthrown side

D, downthrown side

1500

Water-table contour

Upper number is depth to water, in feet below land surface. Lower number is altitude of water table, in feet above mean sea level. P indicates perched water table.

Domestic or stock well

Spring

Municipal supply well

Industrial supply well

Irrigation well

Test hole

Scale 1:62,500

1 0 1 2 MILES

APPROXIMATE MEAN DECLINATION, 1961