MAP OF KIOWA COUNTY

Showing Geology and Water-Table Contours, 1941

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State Geological Survey
of Kansas

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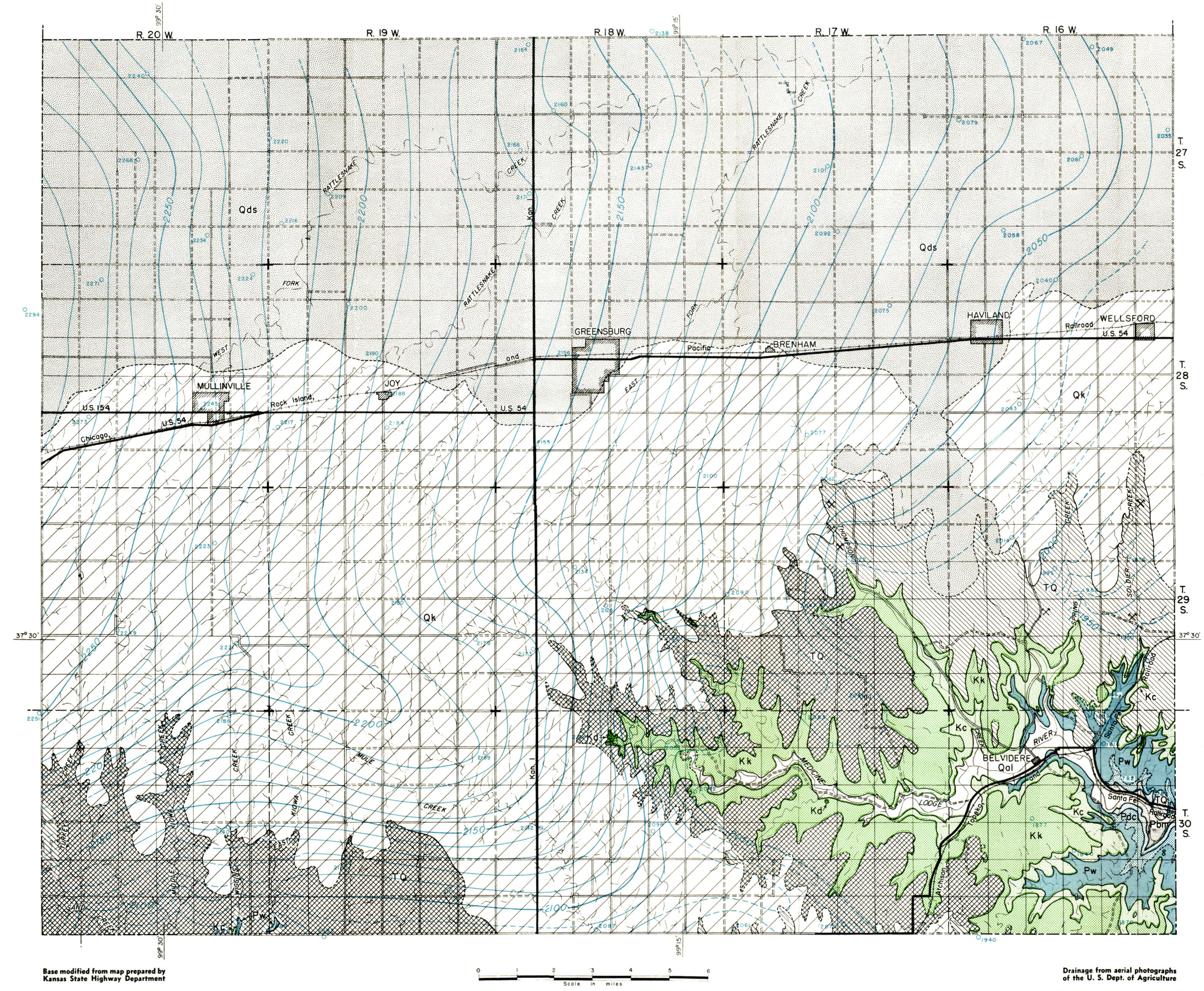
Plate 1



Base modified from map prepared by
Kansas State Highway Department

Drainage from aerial photographs
of the U. S. Dept. of Agriculture

EXPLANATION

QUATERNARY

Qal

Alluvium

Gravel, sand, silt, and clay comprising stream deposits in the Medicine Lodge and in the smaller stream valleys; also includes terrace deposits. The alluvium yields small to moderate supplies of water to wells in the Medicine Lodge and its larger tributary valleys. Waters from the alluvium are generally very hard and in some places are too highly mineralized for domestic use.

Qds

Dune sand

Quartz sand. Sand dunes are above water table and do not furnish water directly to wells, but are important catchment areas for ground-water recharge.

Qk

Kingsdown silt

Silt and sandy silt, containing minor amounts of clay, fine to coarse sand, and fine gravel. Does not yield water to any wells or springs in this area. It is believed to be above the water table everywhere in the county.

Qm

Meade formation

Interbedded lenses of clay, silt, sand, and gravel, mainly unconsolidated. Contains some lime-cemented beds, caliche, and locally volcanic ash.

TQ

Meade and Ogallala formations undifferentiated.

Sand and gravel beds of the Meade and Ogallala formations are the most important sources of ground water in Kiowa county, and supply adequate water of good quality to domestic, stock, irrigation, industrial, and public supply wells.

TERTIARY

To

Ogallala formation

Consolidated and unconsolidated, calcareous silt, sand, and gravel that are lithologically similar to materials of the Meade formation.

CRETACEOUS

Kd

Dakota formation

Sandstone, dark-brown, iron-cemented, hard; sand, tan and brown, fine to medium; and shale, red, light-gray, and tan, silty and clayey. No wells in Kiowa county are known to obtain water from this formation.

Kk

Kiowa shale

Shale, thinly laminated, dark-gray to black and clay and clay shale, gray, tan, brown, and red. Contains thin beds of shell limestone and light to dark-gray and white fine-grained sandstone. A large lense of yellow-tan to buff cross-bedded fine-grained sandstone occurs locally at top of formation. Most of the formation is relatively impermeable and will not yield water to wells. The sandstone lens at top supplies moderate amounts of water to one well and several springs.

Kc

Cheyenne sandstone

Sandstone, light colored, fine to coarse grained, friable, cross-bedded, and lenses of shale, gray to black, sandy, carbonaceous. Supplies water to a few stock and domestic wells in the south-central and southeastern parts of the county. Water is highly mineralized and locally is unfit for ordinary purposes.

PERMIAN

Pw

Whitehorse sandstone

Sandstone and siltstone, red poorly bedded fine-grained friable, containing minor amounts of shale. Supplies small quantities of very hard water to a few wells in southeastern Kiowa county.

Pdc

Dog Creek shale

Shale, red, containing thin beds of light gray and mottled red and light gray fine-grained sandstone. Relatively impermeable; not known to yield water to wells in Kiowa county.

Pbm

Blaine formation

(Medicine Lodge gypsum member)

Gypsum, white massive; weathers to light gray. Not known to yield water to wells.

Contour interval 10 feet

- 2100 — Water-table contours based on instrumental levels (dashed where position is inferred)
- 2101 — Well location. Number refers to altitude of water level
- Federal or State highway
- Graded road
- Ungraded road
- Section line (no road)
- Township line (no road)
- Perennial stream
- Intermittent stream
- Gravel pit