AREAL GEOLOGY OF JEWELL CO., KANSAS

and a Geologic Cross Section

State Geological Survey
of Kansas

by A. R. Leonard
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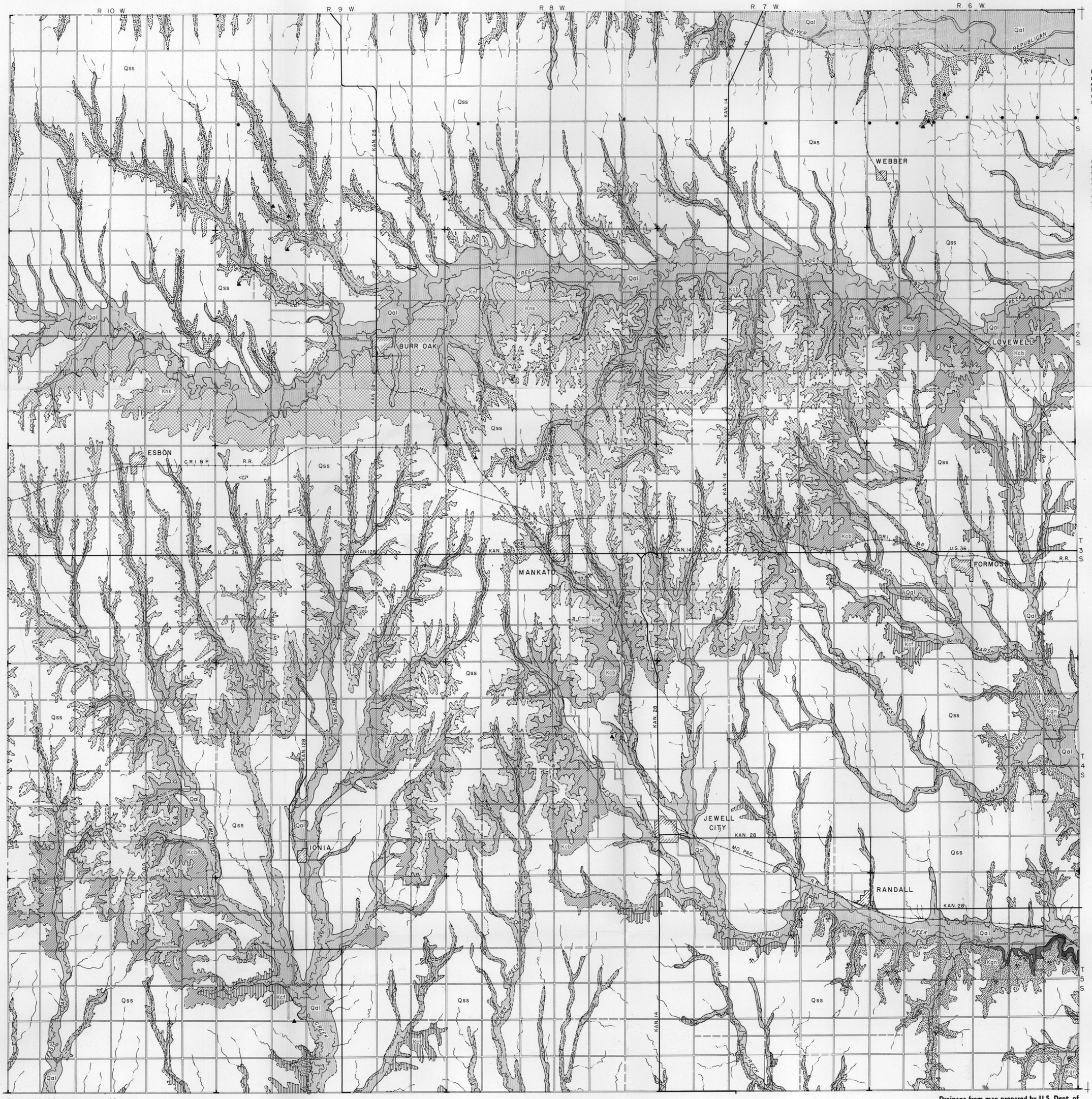
Plate 1



Base modified from map prepared by
State Highway Commission of Kansas

Drainage from map prepared by U.S. Dept. of
Agriculture

EXPLANATION

Qal — Alluvium
Unconsolidated silt, gravel, and sand. Yields small quantities of water in creek valleys, large quantities in Republican River Valley. Includes Recent alluvium and Late Wisconsinan terrace deposits. Dotted line indicates terrace scarp in Republican River Valley.

Qss — Sanborn formation
Massive eolian silt, sandy silt, limestone gravel, and sand and gravel. Locally includes slope deposits or underlying limestone gravel and Sappa member of the Meade formation where the Sappa Member is indistinguishable from the Loveland member of the Sanborn. Locally yields small supplies of water. Dotted line outlines upland edge of "terrace" along Republican River Valley.

Qm — Meade formation
Massive silt, stratified sandy silt, and cross-bedded sand and gravel. Locally contains the Pearlette ash lentil. Yields moderate supplies of water from basal gravel in northwestern part of area and smaller amount from silt in northwestern part.

PLEISTOCENE } QUATERNARY

Kns — Niobrara formation, Smoky Hill chalk member
Marine chalky shale and chalky limestone. Locally yields small supplies of water from fractures.

Knf — Niobrara formation, Fort Hays limestone member
Massive white chalky limestone. Yields little or no water to wells.

Kcb — Carlile shale, Blue Hill shale member
Gray fissile noncalcareous shale containing sandy zones at top and septarian and discoidal concretions. Yields little or no water to wells.

Kcf — Carlile shale, Fairport shale member
Gray, white, and buff calcareous shale and thin chalky limestone beds. Locally weathered zones yield small quantities of water to wells.

Kgn — Greenhorn limestone
Gray chalky shale alternating with chalky limestone in upper part and with dark crystalline limestone in lower part. Locally limestone in basal part yields meager quantties of water to wells and springs.

Kgs — Graneros shale
Dark-gray fissile noncalcareous shale; contains gypsum crystals, ochre, and locally sandy zones. Yields little or no water to wells.

Kd — Dakota formation
Massive fine-grained sandstone, structureless clay, and shale. Locally contains lignite in upper part. Yields moderate quantities of moderately mineralized water to a few wells in southeastern Jewell County, elsewhere contains highly mineralized water.

GULFIAN } CRETACEOUS

▲ Outcrop of pearlette volcanic ash of Meade formation.

⚒ Limestone quarry or gravel pit

● Test hole

Federal or State Highway
Graded road
Ungraded road
State line (no road)
County line (no road)
Township line (no road)
Section line (no road)
Railroad
Intermittent stream

0 1 2 3 4
SCALE, IN MILES