

**KANSAS GEOLOGICAL SURVEY
OPEN-FILE REPORT 2003-24**

PRELIMINARY GEOLOGIC MAPS OF PORTIONS OF PAWNEE &
EDWARDS COUNTIES , KANSAS

By

W. C. Johnson

Disclaimer

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PAWNEE & EDWARDS COUNTIES QUADRANGLE MAPS

The following seven quadrangle maps are photocopies of field maps submitted by the Kansas Geological Survey as part of the STATEMAP Agreement #02HQAG0029 for FY02 (May 1, 2002 to April 30, 2003). The following four quadrangles form **Kansas Geological Survey Open-File Report 2003-24 ‘Preliminary Geologic Field Maps of portions of Pawnee County, Kansas.** Note: The one quadrangle having a portion of Edwards County (Hanston SE) is included with this open file report at this time.

Quadrangles included in the FY02 mapping effort--

Complete Quadrangles

Rozel
Stanford
Fort Larned
Larned

Partial Quadrangles

Radium
Burdett
Hanston SE

Stratigraphic Column Pawnee and Edward Counties, Kansas

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Quaternary System Alluvial deposits

Qal **Undifferentiated flood plain alluvium**
coarse gravel to clay; late Holocene age; 14 ft

Alluvial terrace deposits of the Pawnee River and Arkansas River Valleys

coarse gravel to clay

Qt1 **Holocene age**
8 ft

Qt2 **Holocene age**
20 ft

Qt3 **Holocene-Pleistocene age**
52 ft

Qp **Upland intermittent lake (playa) deposits**
silt to clay; late Pleistocene to Holocene ages; 6 ft

Eolian deposits

Qds **Eolian sand**
fine sand occurring in sheets and dunes; late Pleistocene to
Holocene ages; 53 ft

Ql **Loess**
fine-grained sediments, dominantly silt-sized; Pleistocene to
Holocene ages; 9 ft

Tertiary and Quaternary Systems

To **Undifferentiated alluvium, dominated by the Ogallala Formation**
coarse gravel to clay; calcareous; Miocene to middle Pleistocene
age; includes the Miocene Ogallala Formation, early Pleistocene
Meade Formation, and other Pleistocene alluvial units; 39 ft

Cretaceous System

Upper Cretaceous Series

Kc **Carlile shale- Fairport chalk mbr**
16 ft

Kgh **Greenhorn limestone (Pfeifer shale and Jetmore chalk mbrs)**
Chalky shale with thin limestone beds and limestone concretions,
and thin chalky limestone beds separated by chalky shale; 27 ft

Kd **Dakota sandstone**
White to brown lenticular sandstone with gray and variegated
sandy shale; 51 ft

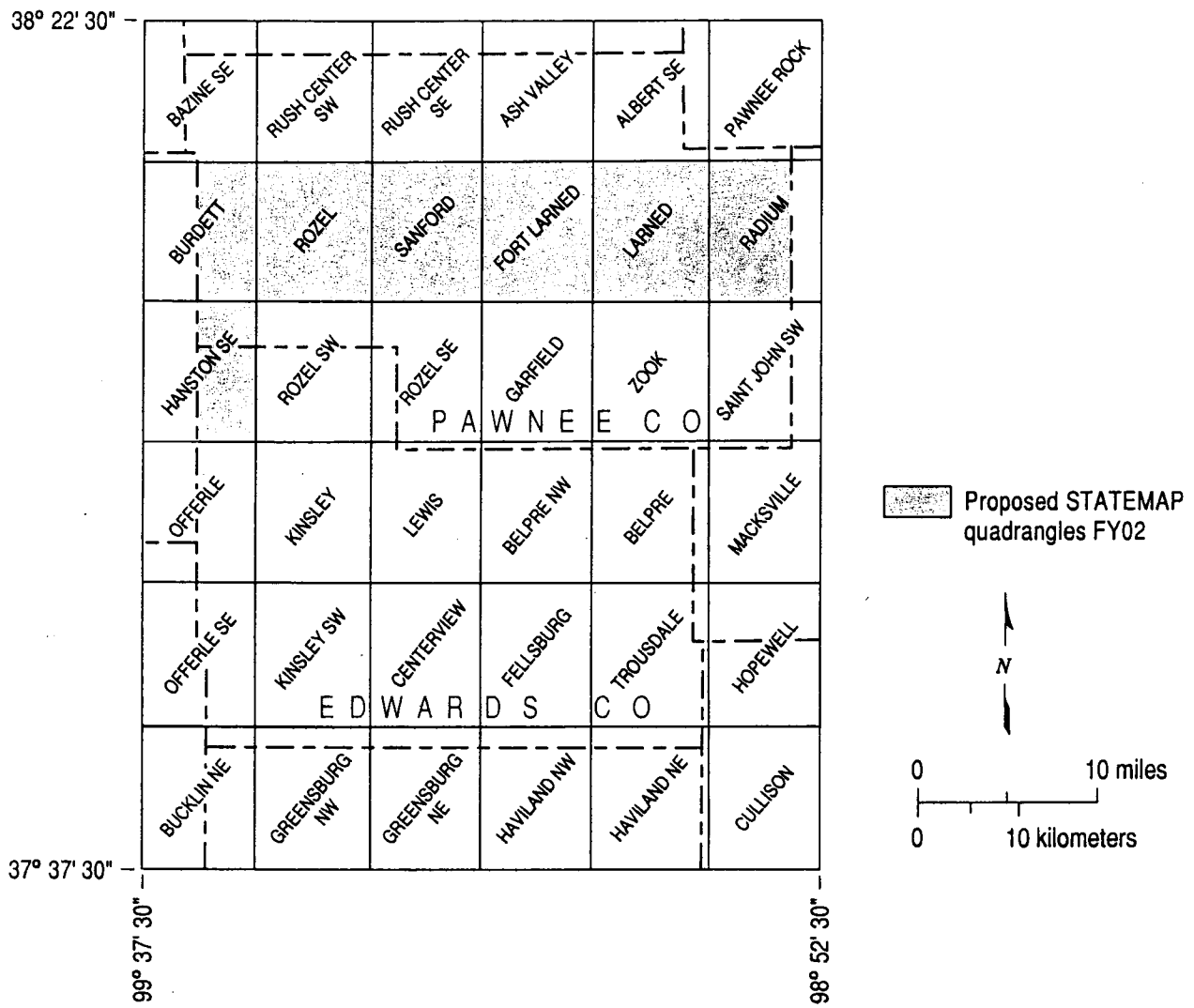


Figure 7—Quadrangle maps covering Pawnee and Edwards counties and quadrangle areas within the counties proposed for the FY02 STATEMAP project.

PAWNEE & EDWARDS COUNTIES QUADRANGLE MAPS

The following nine quadrangle maps are photocopies of field maps submitted by the Kansas Geological Survey as part of the STATEMAP Agreement #04HQAG0071 for FY04 (May 1, 2004 to April 30, 2005). The following 17 quadrangles are added to the **Kansas Geological Survey Open-File Report 2003-24 "Preliminary Geologic Field Maps of portions of Pawnee County and Edwards, Kansas.**

Quadrangles included in the FY04 mapping effort--

Complete Quadrangles

Zook (Pawnee and Edwards counties)
Belpre NW (Pawnee and Edwards counties)
Lewis " " " "
Kinsley (Edwards County)
Kinsley SW (Edwards Co.)
Centerview " "
Fellsburg " "

Partial Quadrangles

Belpre (Pawnee and Edwards counties)
Saint John SW (Pawnee County)
Offerle (Edwards County)
Offerle SE " "
Trousdale * " "
Haviland NE * " "
Haviland NW * " "
Greensburg NE * " "
Greensburg NW * " "
Bucklin NE * " "

Note: A small area of Pawnee County was expected to be in the Mackville Quadrangle, however, all of area anticipated to be in the Macksville Quadrangle, is actually within the Saint John SW Quadrangle.

* Note—These six partial quadrangles were completed during this contract year in order to complete the field mapping of this county during this year. These quadrangles were not listed in the original deliverables in the FY04 proposal.

Stratigraphic Column Pawnee and Edward Counties, Kansas

William C. Johnson
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University of Kansas

Quaternary System

Alluvial deposits

Qal

Undifferentiated flood plain alluvium

coarse gravel to clay; late Holocene age; 14 ft

Alluvial terrace deposits of the Pawnee River and Arkansas River Valleys

coarse gravel to clay

Qt1

Holocene age

8 ft

Qt2

Holocene age

20 ft

Qt3

Holocene-Pleistocene age

52 ft

Qp

Upland intermittent lake (playa) deposits

silt to clay; late Pleistocene to Holocene ages; 6 ft

Eolian deposits

Qds

Eolian sand

fine sand occurring in sheets and dunes; late Pleistocene to Holocene ages; 53 ft

Ql

Loess

fine-grained sediments, dominantly silt-sized; Pleistocene to Holocene ages; 9 ft

Tertiary and Quaternary Systems

To

Undifferentiated alluvium, dominated by the Ogallala Formation

coarse gravel to clay; calcareous; Miocene to middle Pleistocene age; includes the Miocene Ogallala Formation, early Pleistocene Meade Formation, and other Pleistocene alluvial units; 39 ft

Cretaceous System

Upper Cretaceous Series

Kc

Carlile shale- Fairport chalk mbr

16 ft

Kgh

Greenhorn limestone (Pfeifer shale and Jetmore chalk mbrs)

Chalky shale with thin limestone beds and limestone concretions, and thin chalky limestone beds separated by chalky shale; 27 ft

Kd

Dakota sandstone

White to brown lenticular sandstone with gray and variegated sandy shale; 51 ft

PAWNEE & EDWARDS COUNTIES QUADRANGLE MAPS

The following nine quadrangle maps are photocopies of field maps submitted by the Kansas Geological Survey as part of the STATEMAP Agreement #03HQAG0052 for FY03 (May 1, 2003 to April 30, 2004). The following nine quadrangles are added to the **Kansas Geological Survey Open-File Report 2003-24 "Preliminary Geologic Field Maps of portions of Pawnee County, Kansas**. Note: Two quadrangles having a portion of Edwards County (Rozel SE, and Rozel SW) are included with this open file report at this time. A Edwards County open-file report will be started following the FY04 field work in that county.

Quadrangles included in the FY03 mapping effort--

Complete Quadrangles

Garfield (Pawnee Co)
Rozel SE (both Pawnee and Edwards counties)
Rozel SW (" " " ")

Partial Quadrangles (all in Pawnee County)

Bazine SE
Rush Center SW
Rush Center SE
Ash Valley
Albert SE
Pawnee Rock

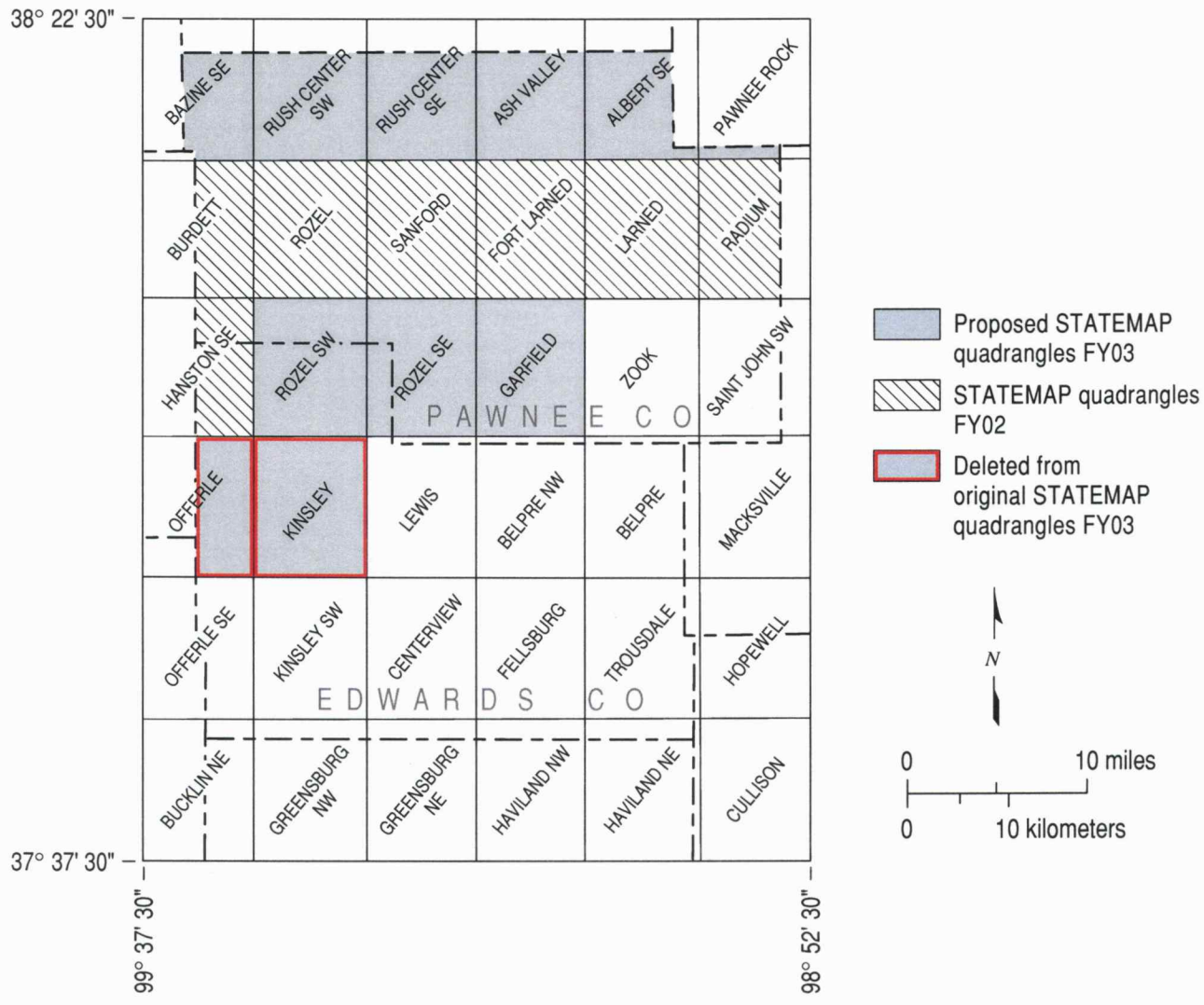


Figure 9—Quadrangle maps covering Pawnee and Edwards counties and quadrangle areas within the counties proposed for the FY03 STATEMAP project.

Stratigraphic Column Pawnee and Edward Counties, Kansas

William C. Johnson
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Quaternary System

Alluvial deposits

Qal **Undifferentiated flood plain alluvium**
coarse gravel to clay; late Holocene age; 14 ft

Alluvial terrace deposits of the Pawnee River and Arkansas River Valleys

coarse gravel to clay
Qt1 **Holocene age**
8 ft

Qt2 **Holocene age**
20 ft

Qt3 **Holocene-Pleistocene age**
52 ft

Qp **Upland intermittent lake (playa) deposits**
silt to clay; late Pleistocene to Holocene ages; 6 ft

Eolian deposits

Qds **Eolian sand**
fine sand occurring in sheets and dunes; late Pleistocene to
Holocene ages; 53 ft

Ql **Loess**
fine-grained sediments, dominantly silt-sized; Pleistocene to
Holocene ages; 9 ft

Tertiary and Quaternary Systems

To **Undifferentiated alluvium, dominated by the Ogallala Formation**
coarse gravel to clay; calcareous; Miocene to middle Pleistocene
age; includes the Miocene Ogallala Formation, early Pleistocene
Meade Formation, and other Pleistocene alluvial units; 39 ft

Cretaceous System

Upper Cretaceous Series

Kc **Carlile shale- Fairport chalk mbr**
16 ft

Kgh **Greenhorn limestone (Pfeifer shale and Jetmore chalk mbrs)**
Chalky shale with thin limestone beds and limestone concretions,
and thin chalky limestone beds separated by chalky shale; 27 ft

Kd **Dakota sandstone**
White to brown lenticular sandstone with gray and variegated
sandy shale; 51 ft