PRELIMINARY SURFICIAL GEOLOGY OF THE LINCOLN COUNTY PORTION OF THE BARNARD QUADRANGLE, KANSAS

by Robert S. Sawin and John W. Dunham

2017

Open-File Report 2017-13

These descriptions are a compilation of several persons, including field notes and measured sections. Kansas Department of Transportation provided important information and advice, and the descriptions were written by

R. S. Sawin, M. A. Sommers, and J. W. Dunham. USGS

GEOLOGIC EVENTS

CENOZOIC

Quaternary System

Pluvial-Floodplain

Alluvium and terrace gravel. Elevation 1100 to 1300 feet. River alluvium along major stream valleys and in minor dune basins. River alluvium consists of gravel and clay with some sand. The fluvial deposits are the dominate surface materials in the county (Baker, 1952).

MIOCENE

Oligocene - Miocene Series

Carbonate Bank - Upper Oligocene Series

Carbonate Bank - Lower Oligocene Series

Green Bay Limestone - The Green Bay Limestone contains the following two members:

1. The Waukegan Member, which is a dark gray shale, as well as the upper part of the Chicago Member, which is a dark gray shale. The Green Bay Limestone is mapped in the southern part of the county.

2. The Chicago Member, which is a dark gray shale, as well as the upper part of the Chicago Member, which is a dark gray shale. The Green Bay Limestone is mapped in the southern part of the county.

Plio-Pleistocene Series

Oligocene - Miocene Series

Carbonate Bank - Upper Oligocene Series

Carbonate Bank - Lower Oligocene Series

Green Bay Limestone - The Green Bay Limestone contains the following two members:

1. The Waukegan Member, which is a dark gray shale, as well as the upper part of the Chicago Member, which is a dark gray shale. The Green Bay Limestone is mapped in the southern part of the county.

2. The Chicago Member, which is a dark gray shale, as well as the upper part of the Chicago Member, which is a dark gray shale. The Green Bay Limestone is mapped in the southern part of the county.

Plio-Pleistocene Series

Oligocene - Miocene Series

Carbonate Bank - Upper Oligocene Series

Carbonate Bank - Lower Oligocene Series

Green Bay Limestone - The Green Bay Limestone contains the following two members:

1. The Waukegan Member, which is a dark gray shale, as well as the upper part of the Chicago Member, which is a dark gray shale. The Green Bay Limestone is mapped in the southern part of the county.

2. The Chicago Member, which is a dark gray shale, as well as the upper part of the Chicago Member, which is a dark gray shale. The Green Bay Limestone is mapped in the southern part of the county.

Plio-Pleistocene Series

Oligocene - Miocene Series

Carbonate Bank - Upper Oligocene Series

Carbonate Bank - Lower Oligocene Series

Green Bay Limestone - The Green Bay Limestone contains the following two members:

1. The Waukegan Member, which is a dark gray shale, as well as the upper part of the Chicago Member, which is a dark gray shale. The Green Bay Limestone is mapped in the southern part of the county.

2. The Chicago Member, which is a dark gray shale, as well as the upper part of the Chicago Member, which is a dark gray shale. The Green Bay Limestone is mapped in the southern part of the county.

Plio-Pleistocene Series

Oligocene - Miocene Series

Carbonate Bank - Upper Oligocene Series

Carbonate Bank - Lower Oligocene Series

Green Bay Limestone - The Green Bay Limestone contains the following two members:

1. The Waukegan Member, which is a dark gray shale, as well as the upper part of the Chicago Member, which is a dark gray shale. The Green Bay Limestone is mapped in the southern part of the county.

2. The Chicago Member, which is a dark gray shale, as well as the upper part of the Chicago Member, which is a dark gray shale. The Green Bay Limestone is mapped in the southern part of the county.