

UNITED STATES DEPARTMENT OF INTERIOR  
GEOLOGICAL SURVEY

Distribution of the basal clastic unit of the Oligocene  
Chadron Formation in the Alliance 2-degree quadrangle,  
northwestern Nebraska

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This report is preliminary and has not been reviewed for  
conformity with Geological Survey standards and nomenclature

## METHODS

The study is based mostly on electric log analysis. A thickness map and three lines of bore-hole sections (figs. 1-4) were prepared from electric log data. Table 1 lists the names and locations of boreholes used in the sections. No rock samples were available for study. Thickness differences between the contoured data in Townships 29 North and northward on figure 1 and those shown on the cross section in figure 2 resulted from the different data sources (Figs. 1-2) and could not be rectified.

## STRATIGRAPHY

In the Alliance quadrangle the basal clastic unit was deposited primarily in a major fluvial belt, about 10 to 20 miles wide that extends eastward in Nebraska from the Wyoming-Nebraska line through north-central Sioux County and southeastward through southwest Daves and Box Butte Counties. Another ancestral fluvial belt containing the Chadron sandstone crosses the southwest corner of the Alliance quadrangle and two isolated areas of the basal clastic unit are found west of the main fluvial belt in the western part of the quadrangle. These isolated occurrences



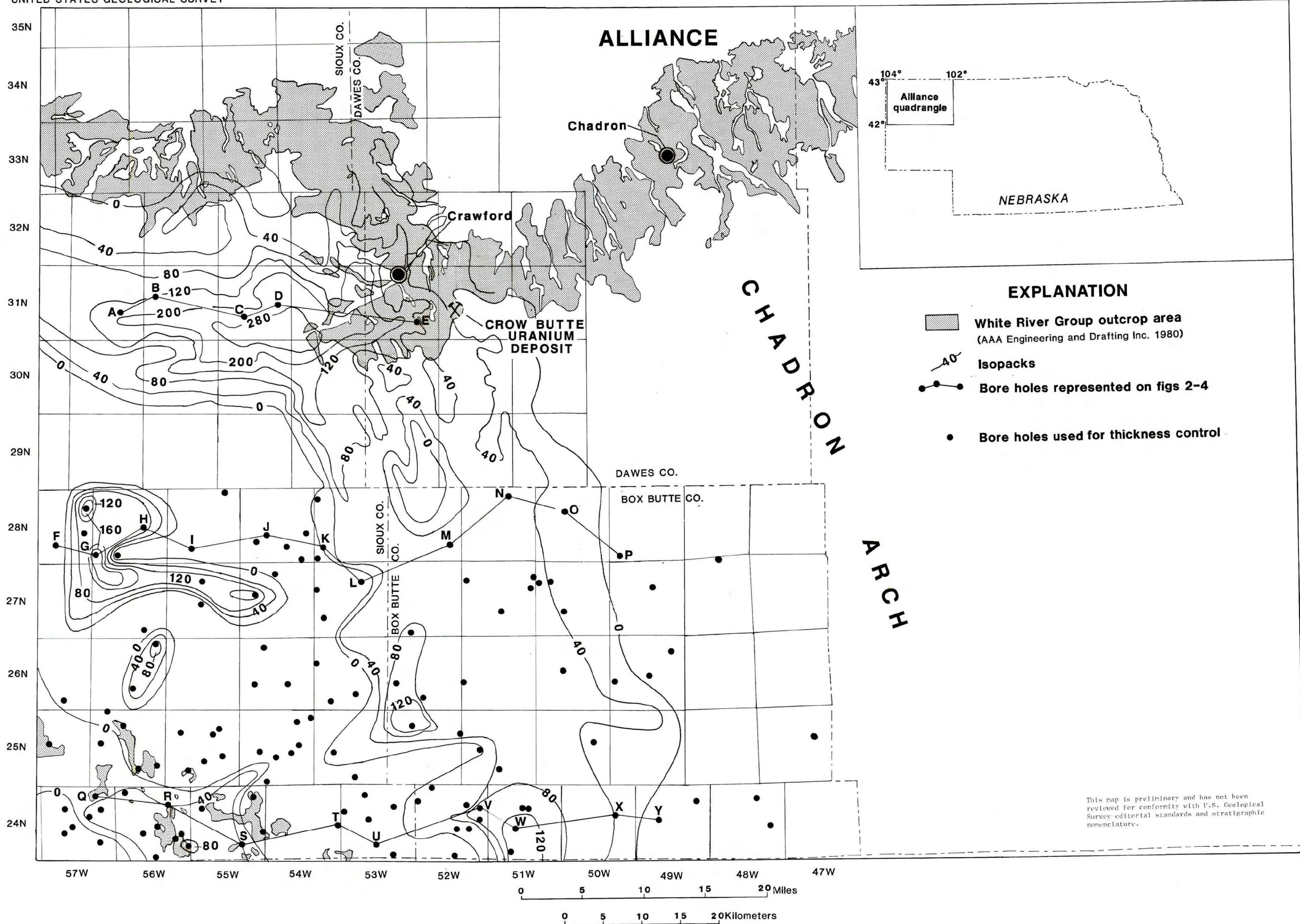


Figure 1.--Map of Alliance 2-degree quadrangle showing thickness of the basal clastic unit of the Chadron Formation of the White River Group and outcrop areas of the White River Group. Thickness contour lines in the area from 29 to 34 North are from Gjølsteen and Collings (1988).

DISTRIBUTION OF THE BASAL CLASTIC UNIT OF THE OLIGOCENE CHADRON FORMATION IN THE ALLIANCE 2-DEGREE QUADRANGLE, NORTHWESTERN NEBRASKA