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## Geologic map showing configuration of the bedrock surface, North Platte, 1 degree x 2 degrees quadrangle, Nebraska

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PREPARED IN COOPERATION WITH THE

15' | 1800 000 FEET (SOUTH)

FEB 1 1 1992

MISCELLANEOUS INVESTIGATIONS SERIES

The map area, in west-central Nebraska, is largely covered by surficial

deposits of eolian sand, loess, and alluvium ranging in age from Holocene

300 ft (91 m) thick, covers most of the area north of the North Platte and Platte Rivers, and also covers a small area south of those rivers. The Peoria Loess of Quaternary age overlies most of the remaining upland north of

the Platte River in southwestern Logan, northeastern Lincoln, and much

of western Custer and extreme northwestern Dawson Counties. Loess also mantles the divide between the North and South Platte Rivers and most of the upland south of the South Platte River in Keith, Lincoln, and

Perkins Counties. Holocene alluvium underlies the valleys of the rivers

and their larger tributaries. Older alluvium of Pleistocene and Pliocene age occurs beneath loess on the divide between the North and South Platte Rivers, beneath eolian sand along the north side of the North Platte River

Rocks of the Miocene Ogallala Group crop out principally along the south side of the North Platte River valley and on either side of the South

Platte River, and locally in roadcuts and along other stream valleys. The

Ogallala is present beneath the surficial deposits throughout the

The Arikaree Group (Miocene and Oligocene) underlies the Ogallala over much of western Nebraska but no outcrops were recognized in the quadrangle. However, Arikaree deposits have been recognized in drill holes near the Grant County-Arthur County line in the northwestern part

The Oligocene Brule Formation of the White River Group uncon-

formably underlies the Ogallala Group in outcrops in the quadrangle.

Exposures of the Brule are confined to tributary streams along the south

side of the North Platte River from Kingsley Dam eastward for about 2 mi

(1.2 km). The Brule in the quadrangle conforms to the expanded

are from logs of drill holes and irrigation wells in the data collections of the

Conservation and Survey Division, University of Nebraska-Lincoln.

Additional geologic data were derived from maps and reports listed in the "Selected References" and from the unpublished soil survey of Keith

J.B. Swinehart, research geologist, Nebraska Geological Survey, collaborated with the author in preparation of the bedrock contour map.

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quadrangle except in two local areas (fig. 1).

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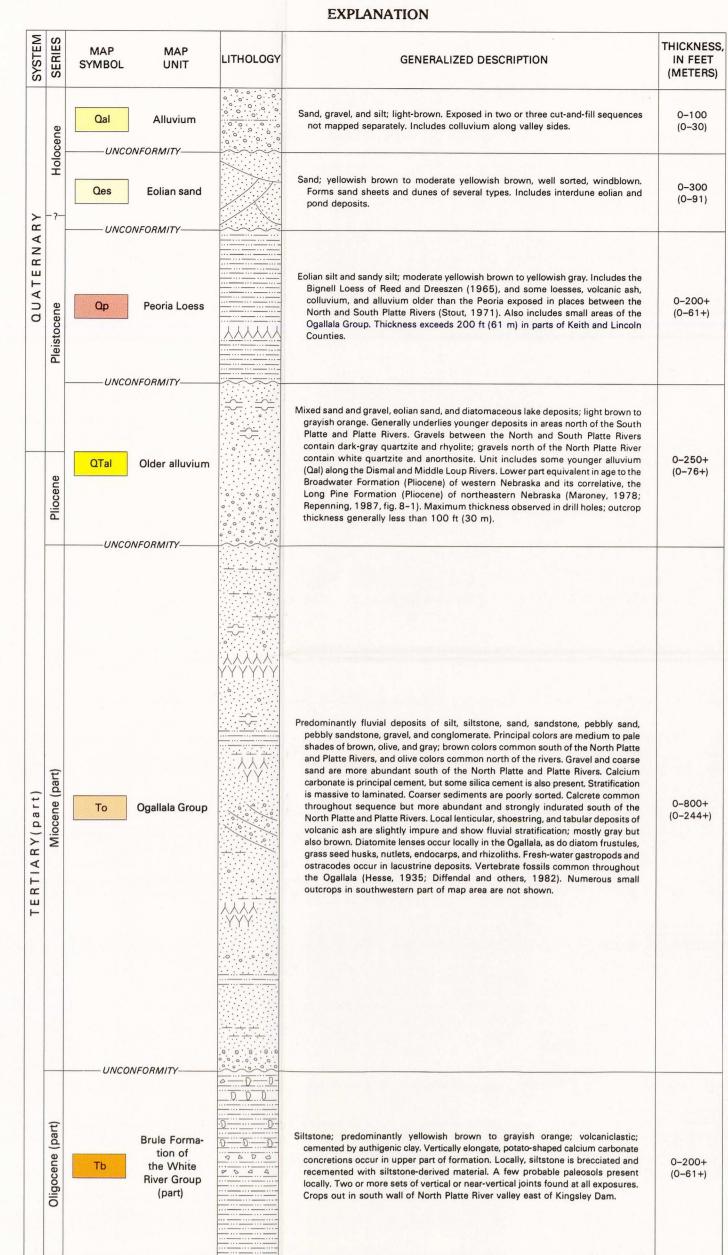
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of the map area.

to Pliocene. Holocene and late Pleistocene(?) eolian sand, as much as

MAP I-2277



— 2500 — Contours—Drawn on top of the Ogallala Group, or on top of the Brule Formation where the Ogallala has been removed by erosion. Contours generalized through outcrop areas in steep valley walls.

Contour interval 100 ft (30 m) Contour data point—Showing elevation in feet of top of bedrock Drill hole

• 2505 Irrigation well

Volcanic ash occurrence—Number indicates multiple

Sand and gravel, conglomerate Cross-stratified sand and gravel, conglomerate Pebbly sand, pebbly sandstone Sand, sandstone

Silt, siltstone

Calcrete

Diatomite Volcanic ash Breccia Concretion

5 10 15 20 25 30 Miles 0 5 10 15 20 25 30 35 40 Kilometers **EXPLANATION** 

- Isopachs-Contour interval 100 ft (30 m). Hachures indicate closed area of lesser

Ogallala Group **Brule Formation** 

Figure 1. Isopach map of the Ogallala Group (To), North Platte 1° × 2° quadrangle, Nebraska.

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For sale by U.S. Geological Survey Map Distribution,

Base from U.S. Geological Survey, 1954 GOTHENBURG 13 MI. GOTHENBURG 10 MI Geology mapped primarily in 1989 SCALE 1:250 000 Edited by Alessandro J. Donatich 100,000-foot grids based on Nebraska coordinate system, Color and graphic design by Virginia D. Scott Cartography by Henry Williams 10,000-meter Universal Transverse Mercator grid, zone 14 Manuscript approved for publication January 28, 1991 CONTOUR INTERVAL 100 FEET NATIONAL GEODETIC VERTICAL DATUM OF 1929 1991 MAGNETIC DECLINATION FROM TRUE NORTH VARIES FROM 9° EASTERLY FOR THE CENTER OF THE WEST EDGE TO 7.5° EASTERLY FOR THE CENTER OF THE EAST EDGE inches (in) centimeters (cm) feet (ft) meters (m) McCOOK GRAND ISLAND I-1878 I-819 kilometers (km) INDEX SHOWING LOCATION OF NORTH PLATTE QUAD-RANGLE AND OTHER 1° × 2° GEOLOGIC QUADRANGLES PUBLISHED BY THE U.S. GEOLOGICAL SURVEY GEOLOGIC MAP SHOWING CONFIGURATION OF THE BEDROCK SURFACE, NORTH PLATTE 1° × 2° QUADRANGLE, NEBRASKA R.F. Diffendal, Jr., Nebraska Geological Survey