61-42 PLATE I

GEOLOGIC MAP OF THE CHADRON AREA, NEBRASKA AND SOUTH DAKOTA

Scale 1:48,000

1 2 0 1 2 3 Miles

Base from aerial photographs and U.S. General Land Office plats

Geology by R. J. Dunham, assisted by T. M. Kehn, 1954

EXPLANATION

QUATERNARY

Pleistocene and Recent

Qal — Alluvium

Qt — Terrace deposits and loess
Sand, gravel, and silt more than 130 feet above stream level.

TERTIARY

Miocene

To — Arikaree group
Sandstone, siltstone, and ash. Gering sandstone, the lowest unit, is conglomeratic locally.

Oligocene

Tbg, Tb, Tc, Tw — White River group
Gypsum facies of Brule formation, Tbg, clay, gypsum, dolomite, and limestone; clastic facies of Brule formation, Tb, siltstone, mudstone, and sandstone; Chadron formation, Tc, mudstone, claystone and sandstone; undifferentiated White River group, Tw. Soil of Eocene(?) age beneath White River group not mapped.

CRETACEOUS

Upper Cretaceous

Kpu, Kpm, Kps — Pierre shale
Upper part, Kpu, light gray shale, Baculites corrugatus in limestone concretions near base, Baculites grandis near top; middle part, Kpm, light gray, brownish gray, and dark gray shale, manganese concretions near top, ironstone concretions and Baculites gregoryensis near base; Sharon Springs member, Kps, dark gray shale with bentonite and large limestone concretions.

Kn — Niobrara formation
Limestone or chalk, and calcareous gray shale

Kc — Carlile shale
Dark gray shale, sandy in middle part, numerous limestone concretions in upper part.

Kgb — Greenhorn limestone
Belle Fourche shale, undifferentiated
Limestone, calcareous gray shale, and dark gray shale

Contact
Dashed where approximately located; dotted where concealed.

Fault
Dashed where approximately located; dotted where concealed; queried where doubtful. U, upthrown side; D, downthrown side.

Strike and dip of beds

Gravel pit

Dry hole drilled for oil or gas

Reported location of dry hole

Locality cited for uranium

TRUE NORTH
14.3°
MAGNETIC NORTH

PLEASE REPLACE IN POCKET IN BACK OF BOUND VOLUME

U. S. GEOLOGICAL SURVEY TECHNICAL INFORMATION DOCUMENTS

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