PREPARED BY THE UNITED STATES GEOLOGICAL SURVEY IN COOPERATION WITH THE NORTH DAKOTA STATE WATER COMMISSION, NORTH DAKOTA GEOLOGICAL SURVEY, AND DUNN COUNTY WATER MANAGEMENT DISTRICT

BULLETIN 68
COUNTY GROUND-WATER STUDIES 25
PART III — PLATE 1

A

A′

FEET

METERS

GOLDEN VALLEY FORMATION

SENTINEL BUTTE FORMATION

TONGUE RIVER FORMATION

CANNONBALL AND LUDLOW FORMATIONS, UNDIFFERENTIATED

HELL CREEK FORMATION

FOX HILLS FORMATION

PIERRE FORMATION

145-096-14CDD1
LITTLE MISSOURI RIVER
148-097-33ABB
145-095-22DAD1
SPRING CREEK
144-094-07DAA2
144-094-28DA
143-093-05CA
143-093-09BCB
KNIFE RIVER
140-092-00DAB
141-091-08DDD
141-091-08DDD2

TD 1970
TD 5534
TD 5222
TD 1800
TD 8415

EXPLANATION

AQUIFER—Sandstone aquifers in the preglacial rocks

FORMATION BOUNDARY—Dashed where approximately located

SPONTANEOUS POTENTIAL — ELECTRIC LOG — RESISTIVITY

A A′ TRACE OF SECTION SHOWN ON PLATE 3

0 1 2 3 4 5 6 7 8 9 10 MILES
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 KILOMETERS

VERTICAL SCALE GREATLY EXAGGERATED
DATUM IS MEAN SEA LEVEL

Geohydrology by R. L. Klausing, 1977. Topography and surface geology generalized. Glacial drift and alluvium included with preglacial rocks

PLATE 1.—HYDROGEOLOGIC SECTION OF PREGLACIAL ROCKS, DUNN COUNTY, NORTH DAKOTA

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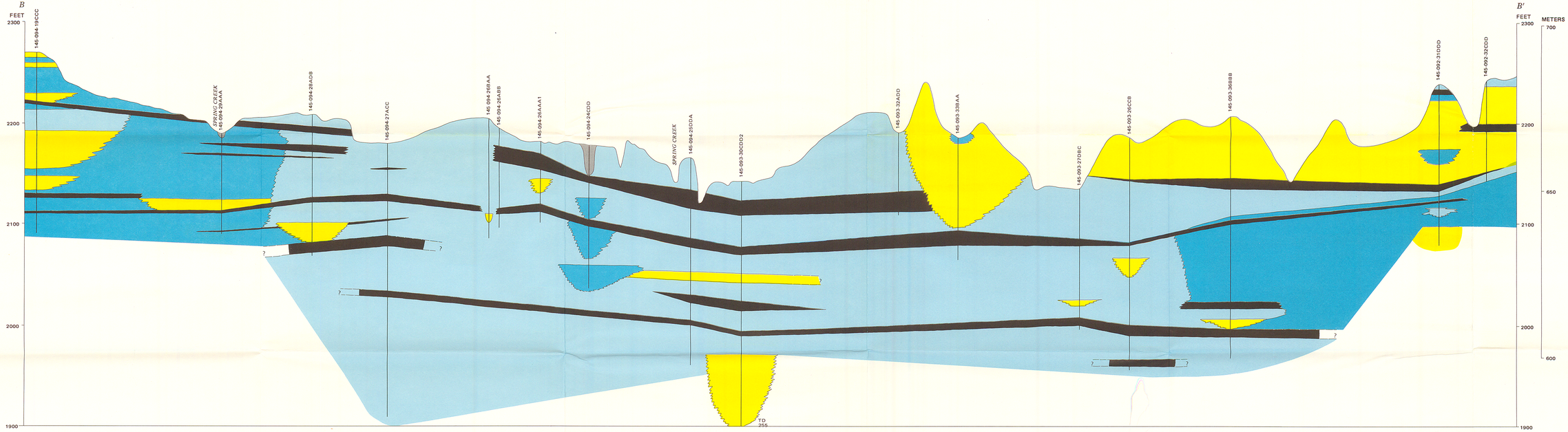
BULLETIN 68
COUNTY GROUND-WATER STUDIES 25
PART III – PLATE 2



EXPLANATION

- ALLUVIUM AND GLACIAL DRIFT
- CLAYSTONE, CLAY, AND SHALE
- SAND AND SANDSTONE
- SILTSTONE
- LIGNITE

B B' TRACE OF SECTION SHOWN ON PLATE 3

0 ½ 1 2 MILES
0 ½ 1 2 3 KILOMETERS

VERTICAL EXAGGERATION ×53
DATUM IS MEAN SEA LEVEL

Topography generalized. Geology by R. L. Klausing, 1977

PLATE 2.–GEOLOGIC SECTION IN UPPER PART OF SENTINEL BUTTE FORMATION, DUNN COUNTY, NORTH DAKOTA

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COUNTY GROUND-WATER STUDIES 25
PART III – PLATE 3

EXPLANATION

ESTIMATED POTENTIAL WELL YIELDS, IN GALLONS PER MINUTE (LITERS PER SECOND)

- 500 to 1000 (32 to 63)
- 200 to 500 (13 to 32)
- 50 to 200 (3 to 13)
- 0 to 50 (0 to 3)

SELECTED TEST-HOLE AND WELL DATA

45-196(74) / 196 — TEST HOLE OR WELL—Upper numbers are top and base of aquifer depth interval in glacial drift. Number in parentheses is aggregate thickness of sand and gravel. Sand and gravel thicknesses of less than 5 feet (1.5 meters) are not shown. Lower number is depth to preglacial rock, in feet below land surface. Absence of lower number indicates that the test hole or well did not completely penetrate the glacial drift

⊙ COMMERCIAL TEST HOLE

A — A′ TRACE OF SECTION

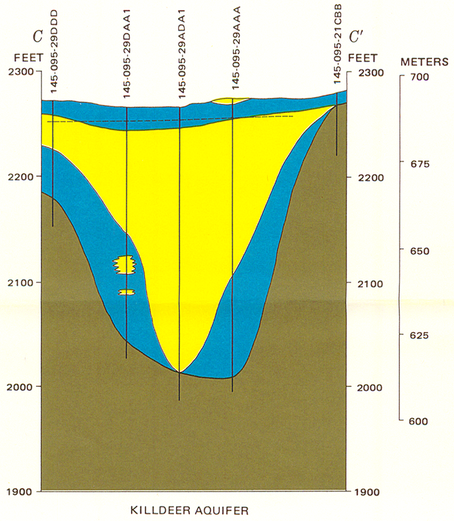
Geohydrology by R. L. Klausing, 1977

BASE FROM NORTH DAKOTA STATE HIGHWAY DEPARTMENT COUNTY HIGHWAY MAPS

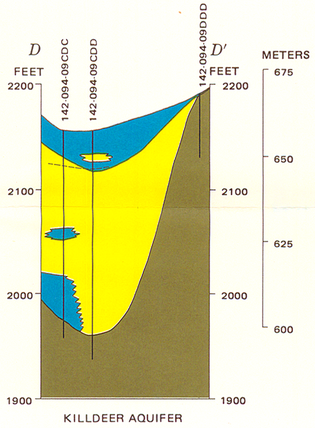
PLATE 3.—MAP SHOWING AVAILABILITY OF GROUND WATER FROM GLACIAL-DRIFT AQUIFERS IN DUNN COUNTY, NORTH DAKOTA

PREPARED BY THE UNITED STATES GEOLOGICAL SURVEY IN COOPERATION WITH THE NORTH DAKOTA STATE WATER COMMISSION, NORTH DAKOTA GEOLOGICAL SURVEY, AND DUNN COUNTY WATER MANAGEMENT DISTRICT

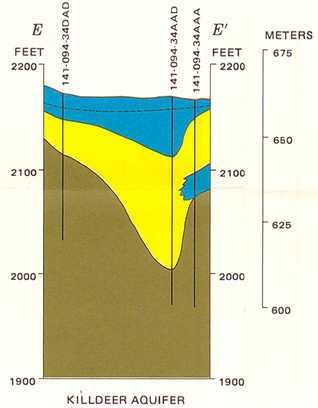
BULLETIN 68
COUNTY GROUND-WATER STUDIES 25
PART III – PLATE 4



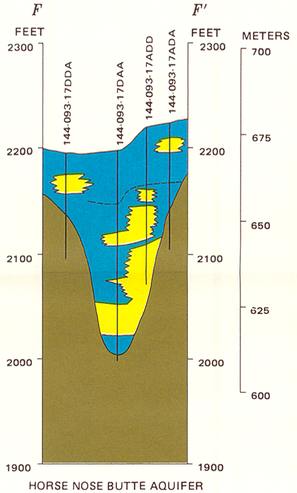
KILLDEER AQUIFER



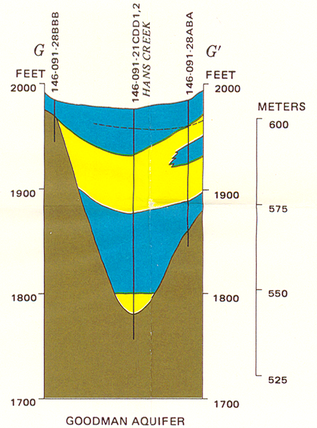
KILLDEER AQUIFER



KILLDEER AQUIFER



HORSE NOSE BUTTE AQUIFER

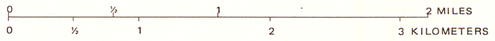


GOODMAN AQUIFER

Geohydrology by R. L. Klausing, 1977

EXPLANATION

- CLAY AND SILT
- SAND AND GRAVEL (AQUIFER)
- BEDROCK
- WATER LEVEL
- C C′ TRACE OF SECTION SHOWN ON PLATE 3



VERTICAL EXAGGERATION x26
DATUM IS MEAN SEA LEVEL

PLATE 4.–HYDROGEOLOGIC SECTIONS IN GLACIAL-DRIFT AQUIFERS, DUNN COUNTY, NORTH DAKOTA