U. S. GEOLOGICAL SURVEY
CHARLES D. WALCOTT, DIRECTOR

AREAL GEOLOGY

SOUTH DAKOTA–NEBRASKA
EDGEMONT QUADRANGLE

(Newcastle) (Harney Peak) (Hermosa)

104°00' 43°30' R. 1 E. R. 2 E. 50' R. 3 E. 40' R. 4 E. R. 5 E. 103°30' 43°30'

T. 6 S. T. 7 S. T. 8 S. T. 9 S. T. 10 S. T. 11 S. T. 12 S.

A B C D E

20' 10'

LEGEND

SEDIMENTARY ROCKS
(continued)

Pennsylvanian series — Permian series ? — CARBONIFEROUS

- **Cmk** — Minnekahta limestone *(very thin-bedded, gray limestone in massive ledges)*
- **Co** — Opeche formation *(bright-red sandy shale; purplish at top)*
- **Cml** — Minnelusa sandstone *(red, yellow, and gray calcareous sandstone)*

- Sandstone dikes in Graneros shale *(material derived from Dakota sandstone)*

Faults

Sections

A B C D E

⚒ *Coal mines and stone quarries*
× *Coal prospects*

LEGEND

SEDIMENTARY ROCKS
(Areas of subaqueous deposits are shown by patterns of parallel lines, subaerial deposits by patterns of dots and circles.)

QUATERNARY

Recent
- **Qds** — Dune sand
- **Qal** — Alluvium *(only the larger deposits represented)*

Pleistocene
- **Qt** — Older terrace deposits *(sand, gravel, and loam)*
- **Qrg** — Residual gravel *(from Chadron formation)*

TERTIARY

Oligocene series
- **Tc** — Chadron formation ? *(sandstone, gravel, and loam)*

UNCONFORMITY

CRETACEOUS

Upper Cretaceous series — Benton group
- **Kp** — Pierre shale *(dark-gray shale or clay with concretions)*
- **Kn** — Niobrara formation *(impure shaly limestone or calcareous clay; weathers light buff)*
- **Kcr** — Carlile formation *(gray shale and thin sandstone)*
- **Kg** — Greenhorn limestone *(impure shaly limestone)*
- **Kgs** — Graneros shale *(black fissile shale)*
- **Kd** — Dakota sandstone *(massive buff sandstone with thinner beds at top)*

Lower Cretaceous series
- **Kf** — Fuson formation *(massive sandy clay of various colors)*
- **Kmw** — Minnewaste limestone *(massive gray limestone)*
- **Klk** — Lakota formation *(massive buff sandstone with clay intercalations and local coal beds)*
- **Km** — Morrison formation *(gray, maroon, and purple clay)*

UNCONFORMITY

JURASSIC
- **Ju** — Unkpapa sandstone *(massive fine-grained sandstone, red, purple, white, yellow, and buff)*
- **Jsd** — Sundance formation *(buff sandstone and greenish shale)*

UNCONFORMITY

TRIASSIC ?
- **Rs** — Spearfish shale *(red sandy shale)*

Legend is continued on the left margin.

E. M. Douglas, Geographer in charge.
Triangulation by E. M. Douglas and A. F. Dunnington.
Topography by A. F. Dunnington.
Surveyed in 1900.

Geology by N. H. Darton and W. S. Tangier Smith.
Surveyed in 1900 and 1902.

APPROXIMATE MEAN DECLINATION 1900.
TRUE NORTH 14½° MAGNETIC NORTH

Scale 1/125000
1 ½ 0 1 2 3 4 5 Miles
1 ½ 0 1 2 3 4 5 Kilometers

Contour interval 50 feet.
Datum is mean sea level.
Edition of Dec. 1903.

DIAGRAM OF TOWNSHIP

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36