DEPARTMENT OF THE INTERIOR
FRANKLIN K. LANE, SECRETARY
U. S. GEOLOGICAL SURVEY
GEORGE OTIS SMITH, DIRECTOR

AREAL GEOLOGY

NEW MEXICO-COLORADO
RATON QUADRANGLE

(Spanish Peaks 125000) (Elmoro 125000)

104°30′ 25′ 20′ R.62 W. R.61 W. 104°15′ 37°00′

T. 35 S. T. 32 N.

LAS ANIMAS CO COLFAX CO — COLORADO NEW MEXICO BOUNDARY LINE — LAS ANIMAS CO COLFAX CO

CARPENTER LINE 1902

BARTLETT EXTINCT VOLCANO

VENT OF LAVA OF HORSESHOE MESA

YANKEE EXTINCT VOLCANO

55′ T. 31 N.

50′ T. 30 N.

T. 29 N. 36°45′

R.23 E. R.24 E. R.25 E.

Geology by Willis T. Lee.
Surveyed in 1913.

(Kachler) 104°30′

R.B. Marshall, Chief Geographer.
Sledge Tatum, Geographer in charge.
Topography by E.P. Davis and S.E. Taylor.
Control by R.B. Robertson and C.P. Gross.
Surveyed in 1911-1912.

APPROXIMATE MEAN DECLINATION, 1920.

Scale 1/62500

1 ½ 0 1 2 3 4 Miles

1 ½ 0 1 2 3 4 5 Kilometers

Contour interval 50 feet.
Datum is mean sea level.

Edition of Sept. 1921.

EXPLANATION

SEDIMENTARY ROCKS

(Areas of sedimentary deposits are shown by patterns of parallel lines; subaerial deposits by patterns of dots and circles.)

QUATERNARY

Qhg — **High-level gravels** *(sand, gravel, and boulders)*

TERTIARY

Tr — **Raton formation** *(sandstone, brown to buff shale, and coal beds; conglomerate at base)*

Eocene

UNCONFORMITY

CRETACEOUS

Upper Cretaceous

Kv — **Vermejo formation** *(dark shale, light-colored friable sandstone, and coal beds)*

Montana group

Krd — **Trinidad sandstone** *(massive, light-gray, feldspathic sandstone)*

Kp — **Pierre shale** *(drab to black fissile arous shale; containing limestone concretions in upper part in southeast parts of Raton and Koehler quadrangles includes representatives of Niobrara limestone and Benton shale, of underlying Colorado group, not readily separable from Pierre shale)*

IGNEOUS ROCKS

(Areas of igneous rocks are shown by patterns of triangles and rhombs)

QUATERNARY

Qa — **Andesite flows and stocks** *(probably intermediate in age between second and youngest basalt flows)*

Qb¹ Qb² Qb³ — **Basalt lava flows** *(Qb¹ oldest and highest flow; Qb² second or intermediate flow; Qb³ youngest and lowest flow; some lava of second flow is mapped with oldest flow on Johnson mesa north of Towndrow Peak)*

Dikes and sheets, chiefly basalt; some andesite and lamprophyre