



EXPLANATION

SEDIMENTARY ROCKS

Areas of sedimentary deposits are shown by patterns of parallel lines

- Tertiary**
 - Eocene**
 - Tr**
Raton formation
(sandstone lenses to buff shales and coal beds conglomerate at base)
 - UNCONFORMITY**
 - Kv**
Vermejo formation
(dark shale, light-colored friable sandstone and coal beds)
- Cretaceous**
 - Upper Cretaceous**
 - Manning group**
 - Ktd**
Trinidad sandstone
(massive, light-gray, calcareous sandstone)
 - Kp**
Pierre shale
(drab to black fossiliferous shale containing limestone concretions in upper part; in some parts of Raton and Vermejo quadrangles include representatives of Pierre shale of underlying Colorado group not readily separable from Pierre shale)

IGNEOUS ROCKS

Dikes and sheets, chiefly basalt, and lamprophyre (pattern indicates dike rock that replaces coal bed in mine)

ECONOMIC DATA

- Coal bed outcrops**
(in Vermejo formation, coal altered to sub-graphite where in contact with igneous rocks)
- Area underlain by coal beds**
- Coal mine entries**
- Coal prospects and location of measured surface sections**
(numbers refer to sections and descriptions in text)
- Mine workings in 1913**

Economic note: Dike, massive coal is extensively mined in the Vermejo and Raton formations; rock layers are obtained from the Pierre shale; basalt is suitable for road metal.

Land lines on map are based on land owners indicated thereon

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Sledge Tatum, Geographer in charge.
Topography by R.W. Berry.
Control by J.R. Ellis and C.C. Holder.
Surveyed in 1915.



Contour interval 50 feet.
Datum is mean sea level.
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Geology by Willis T. Lee.
Surveyed in 1913.