

EXPLANATION

QUATERNARY

Pliocene-Pleistocene (?)

- Q Alluvium, talus, and terrace gravels
- TQ Santa Fe(?) group and Mimbres conglomerate. Alluvial sediments interbedded with thin basalt flows. Near Hillsboro includes a pink well-bedded quartz latite tuff.
- Tu Upper volcanic group. Andesite and latite; minor rhyolite and basalt. Dark scoriaceous to massive flows, minor light-colored tuffs.

TERTIARY

Middle Tertiary (?) (Oligocene-Miocene?)

- Tr Rhyolitic volcanic group (Tr). Light-colored, pumiceous to crystal rhyolitic tuffs, local rhyolitic flows and shallow intrusives. Includes overlying lenticular alluvial sediments which locally contain fossil plants.
- Trp Intrusive rhyolite porphyry (Trp). Characterized by large phenocrysts of quartz and potash feldspar, includes the Rabb Canyon sandine pegmatite area.
- Ti Intrusive rhyolite (Ti). Light-colored, aphanitic dikes and sills.
- Tl Lower volcanic group (Tl). Andesite and latite, flows, flow breccias, tuffs, and locally a basal tanglomerate. Generally dark purple, gray, or green, extensively altered. The upper part locally includes quartz latite tuff, and lenticular alluvial sediments containing rare fossil wood.
- Tm Intrusive quartz monzonite porphyry (Tm). Gray to green aphanitic porphyry, locally nonporphyritic fine-grained, with abundant large feldspar and smaller hornblende and biotite phenocrysts, well altered, weathers brown. Forms dikes, sills and stocks, includes monzonite and granodiorite porphyry of the Cooks Peak area.

CRETACEOUS

- K Colorado shale
- Black shale and thin buff sandstone
- Beartooth quartzite, or Sarten sandstone
- Massive gray to buff quartzose sandstone

PERMIAN

- P Abo formation
- Red to maroon shales, siltstones, sandstones, conglomerates

DEVONIAN MISSISSIPPIAN PENNSYLVANIAN

- C Pennsylvanian sediments. Basal varicolored black shale and local sandstone; thin to massive well-bedded limestone, silty limestone, and shale, abundant chert nodules and lenses, limestone-chert conglomerates.
- Mis Lake Valley formation (Mis). Limestone, gray, coarse-grained, crinoidal, cherty; limestone, black, fine-grained, massive, cherty; and shaly bryozoan limestone.
- Mis Caballero formation (Mis). Confined to the Lake Valley area, thin-bedded brown sandy limestone, and soft gray, nodular limestone and shale.
- Percha shale (Dev). Black shale, green shale with limestone nodules and beds.
- O Onate formation (Dev). Calcareous grayish-brown siltstone, and gray thin-bedded limestone, less than 15 feet thick, limited to several small exposures north and east of Kingston.

CAMBRIAN ORDOVICIAN SILURIAN

- S Fusselman formation (Sil). Limestone and dolomite, gray to black, massive; sparse gray chert nodules.
- Ord Montoya group (Ord). Basal unit: Cable Canyon sandstone, gray, coarse-grained, calcareous, locally absent.
- Upham dolomite, and dolomitic limestone, fine to coarse-grained, light to dark-gray, massive; sparse chert; cliff former.
- Aleman formation, gray to black limestone or dolomite, very thinly interbedded with layers of chert.
- Top unit: Cutter dolomite, fine-grained, light-gray to brownish-gray.
- El Paso group (Ord). Limestone, gray to bluish-gray, fine-grained, prominent yellow-brown siliceous partings protrude on weathered surfaces.
- Bliss formation (Cam-Ord). Sandstones, quartzose, hematitic, glauconitic, massive, medium to coarse-grained; shales and siltstones, green to red, glauconitic and hematitic; and limestones, gray to black.

PRECAMBRIAN

- pC Granite, granite gneiss, metadiabase, metarhyolite, and graywacke

MINING DISTRICTS

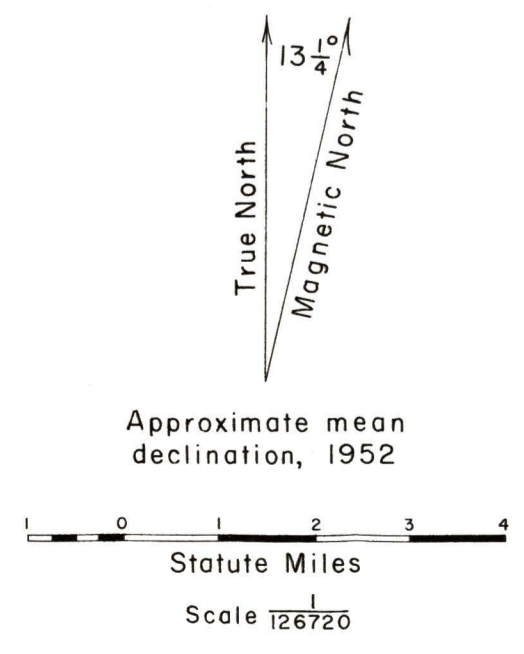
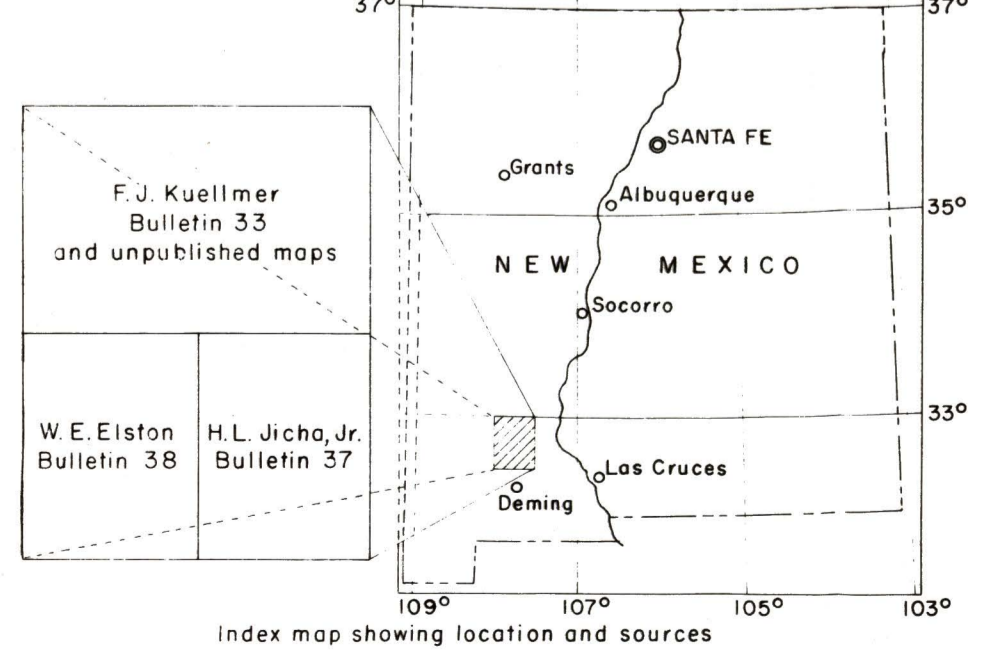
- 1 Kingston (Black Range)
- 2 Hillsboro (Las Animas)
- 3 Carpenter (Swartz)
- 4 Tierra Blanca
- 5 Lake Valley
- 6 Macho
- 7 Jose
- 8 Cooks Peak
- 9 Old Hadley

Geological Symbols:

- Contact
- Fault
- Dashed where approximate
- Showing downthrown side
- Dashed where approximate
- Intermittent stream
- Perennial stream
- Attitude of beds or flow structures
- Roads
- Showing Federal and State numbers

Base from Hillsboro quadrangle of New Mexico State Highway Department.

Geology compiled by F. J. Kuellmer from Bulletins 33, 37, and 38 published by the New Mexico Bureau of Mines and Mineral Resources, and unpublished maps. Cartography by W. E. Arnold and M. M. Frische.



GEOLOGIC MAP OF HILLSBORO PEAK THIRTY-MINUTE QUADRANGLE