STATE BUREAU OF MINES
AND MINERAL RESOURCES
ALVIN J. THOMPSON, DIRECTOR

NEW MEXICO INSTITUTE OF MINING AND TECHNOLOGY
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GEOLOGIC MAP 21

GEOLOGY
VALLE GRANDE PEAK QUADRANGLE
NEW MEXICO

EXPLANATION

QUATERNARY

Qal — Alluvium
Recent silt, sand, and gravel situated in alluvial valleys and mountain meadows.

Qg — Gravel
Unconsolidated pebble to boulder gravel capping numerous terraces in the El Rito valley. Consists largely of metamorphic and volcanic rock types. Average thickness is about ten feet.

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TERTIARY

Tsf — Santa Fe Formation
Reddish-brown to orange to grayish-brown, well-sorted siltstone to sandstone. Poorly consolidated except for thin beds where intertongued with tuffaceous conglomerate of the Los Pinos Formation. Exposed thickness about five hundred feet.

Tlp / Tb — Los Piños Formation
Gray, grayish-pink and grayish-brown, tuffaceous conglomerate containing thin, local masses of greenish-brown amygdaloidal basalt (Tb). Conglomerate is generally poorly sorted with boulders of andesite porphyry, latite porphyry, and rhyolite up to two feet in diameter and largely unconsolidated. Well-cemented layers and lenses of sand and tuffaceous sand are present locally. Thickness is more than one thousand feet.

Tr — Ritito Conglomerate
Grayish-white, poorly sorted, unconsolidated conglomerate of Precambrian rock fragments, principally quartzite, grading upward and laterally into conglomerate of the Los Pinos Formation, and downward into conglomerate of the El Rito Formation. Rare, thin, well-cemented zones are present where the conglomerate rests upon Precambrian quartzite. Average thickness about five hundred feet.

Te — El Rito Formation
Well-cemented conglomerate of well-rounded gray-white quartzite clasts set in a brick-red matrix of hematitic quartz sand. Forms prominent cliff-like outcrops in Cañon de La Madera, Arroyo Seco, and along El Rito Creek. Average thickness two hundred feet.

UNCONFORMITY

PERMIAN

Pc — Cutler Formation
Reddish-brown sandstone and shale. Maximum exposed thickness two hundred feet.

UNCONFORMITY

PRECAMBRIAN

Peo — Ortega Quartzite
Grayish-white, vitreous, pebbly, cross-bedded, medium- to fine-grained kyanite quartzite containing numerous thin laminae of specular hematite.

Contact
Dashed where approximately located; dotted where buried.

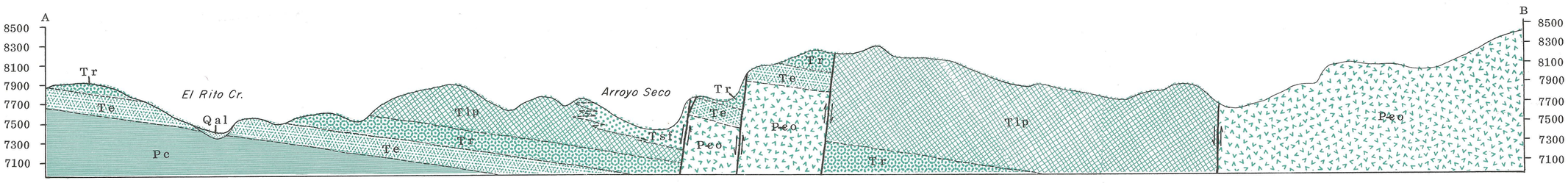
Fault (D, U)
Dashed where approximately located; dotted where buried. U, upthrown side; D, downthrown side.

INDEX MAP OF NEW MEXICO

Approximate mean declination, 1965

Base from United States Geological Survey

Geology by E. C. Bingler, P. Hillard & K. H. Mallon



RECONNAISSANCE GEOLOGIC MAP AND SECTION OF VALLE GRANDE PEAK SEVEN AND ONE HALF MINUTE QUADRANGLE, NEW MEXICO

Scale 1:24,000
0 — 1 Mile