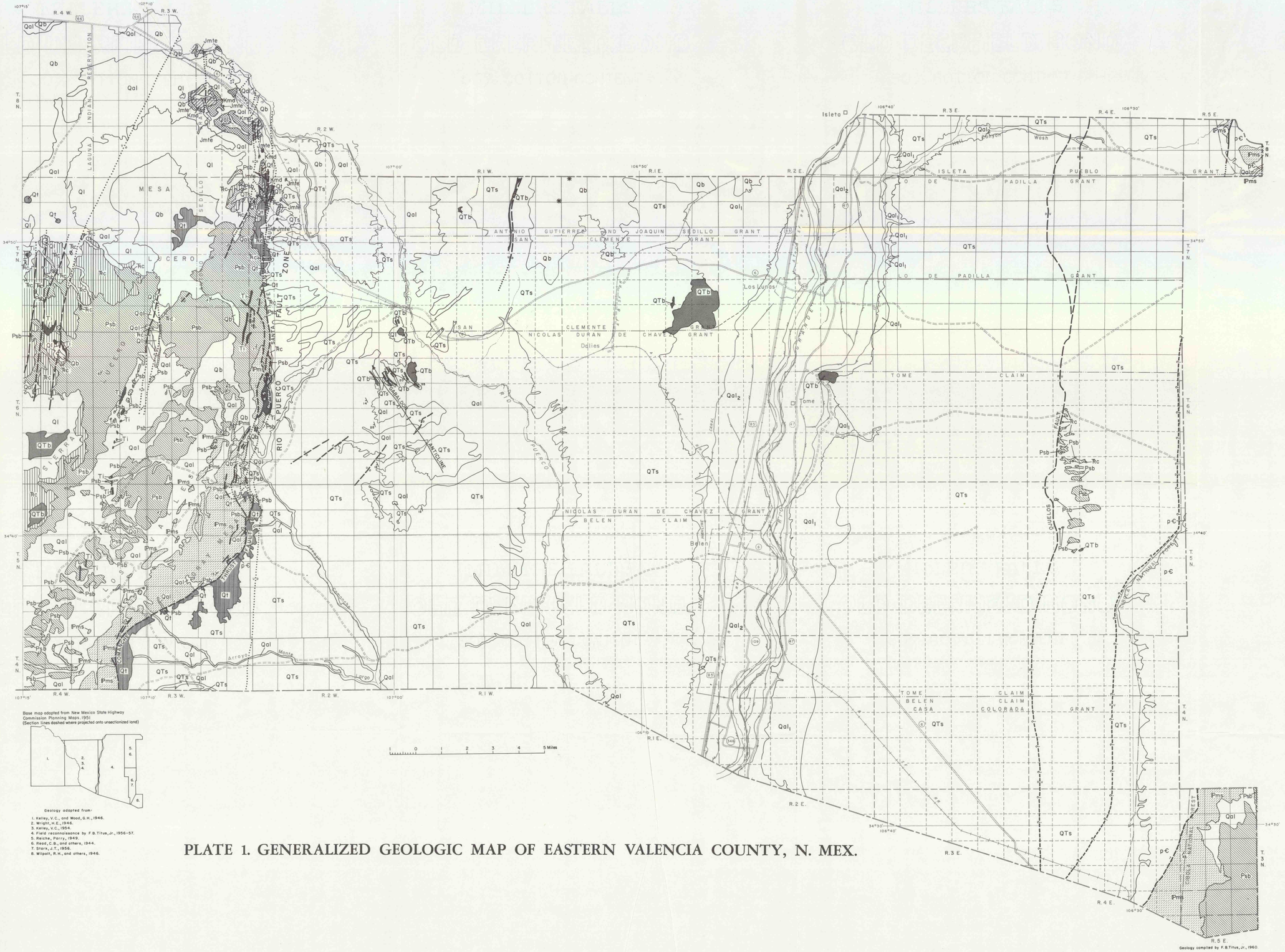

Base map adapted from New Mexico State Highway Commission Planning Maps, 1951
(Section lines dashed where projected onto unsectionized land)

Geology adapted from:
1. Kelley, V.C., and Wood, G.H., 1946.
2. Wright, H.E., 1946.
3. Kelley, V.C., 1954.
4. Field reconnaissance by F.B.Titus, Jr., 1956-57.
5. Reiche, Parry, 1949.
6. Reed, C.B., and others, 1944.
7. Stark, J.T., 1956.
8. Wilpolt, R.H., and others, 1946.

Geology compiled by F.B.Titus, Jr., 1960.

PLATE 1. GENERALIZED GEOLOGIC MAP OF EASTERN VALENCIA COUNTY, N. MEX.

EXPLANATION

SEDIMENTARY ROCKS

QUATERNARY — Pleistocene and Recent

Qal (Qal2, Qal1)
Alluvium
Sand, silt, gravel, and clay. In and near the Rio Grande valley two units recognized: Qal_2, alluvium under the flood plain of the present river, and Qal_1, older alluvium associated with terraces above the present river level. Older alluvium most places is above the water, but probably aids recharge. Alluvium under the present Rio Grande flood plain is prolific aquifer. Elsewhere quality of water in alluvium is poor to impotable

Ql
Landslide and mudflow deposits
Principally where basalt flows overlie shales of Triassic age on Mesa Lucero and Sierra Lucero

Qt
Travertine
Mostly along the Rio Puerco fault zone and Comanche thrust fault. In part associated with existing springs, but some thick deposits not associated with present - day springs

TERTIARY AND QUATERNARY (?) — Miocene to Pleistocene (?)

QTs
Santa Fe Group
Sand and silt with clay and gravel, poorly consolidated. As mapped, includes caliche and surficial log gravels. Probable maximum thickness is over 5,000 feet. Yields over 1,000 gpm to a few wells near the Rio Grande valley; smaller yields obtainable throughout area of occurrence. Quality of water generally good but becomes poor few miles west of line roughly through Belen and Dalies

CRETACEOUS — Lower and Upper Cretaceous

Kmd
Mancos Shale and Dakota Sandstone
Yields small amounts of highly mineralized water to two springs in T. 7 N., R. 2 W.

JURASSIC — Upper Jurassic

Jmte
Morrison Formation, Todilto Limestone, and Entrada Sandstone
Morrison yields small to moderate quantities of highly mineralized water to a few springs in T. 8 N., Rs. 2-3 W.

TRIASSIC — Upper Triassic

Ti
Chinle Formation
Yields small amounts of potable water to few springs on the Ojuelos fault and highly mineralized water to springs on the Rio Puerco fault zone

PERMIAN

Psb
San Andres Limestone, Glorieta Sandstone, Yeso, Abo, and Bursum Formations
The San Andres and Yeso yield highly mineralized water to several wells and springs on and west of the Rio Puerco fault zone. The Abo in Los Valles and the Abo and Bursum in the southeast corner of the county yield small amounts of water to a few wells

PENNSYLVANIAN — Lower, Middle, and Upper Pennsylvanian

Pms
Madera Limestone and Sandia Formation
The Madera yields highly mineralized water to springs along the Rio Puerco fault zone and to wells in Los Valles; one spring produces water from the Madera in the southeast corner of the county. The Sandia may be water bearing, but no wells penetrate it in the area

IGNEOUS AND METAMORPHIC ROCKS

QUATERNARY — Pleistocene and Recent

Qb
Basalt flows

TERTIARY AND QUATERNARY (?) — Miocene to Pleistocene (?)

QTb
Basalt flows
Interbedded in Santa Fe Group and capping part of Sierra Lucero

TERTIARY

Ti
Intrusive rocks
Basalt, monzonite, and diabase; mostly in dikes, sills, and necks

PRECAMBRIAN

p€
Granite, schist, gneiss, and quartzite
Mostly in the Manzano Mountains. Yields small amount of water to one spring in T. 3 N., R. 4 E.

SYMBOLS

Contact, location approximate

Fault
Location approximate; dotted where concealed, queried where probable. U, upthrown side; D, downthrown side; T, upper plate of thrust fault

Cinder cone