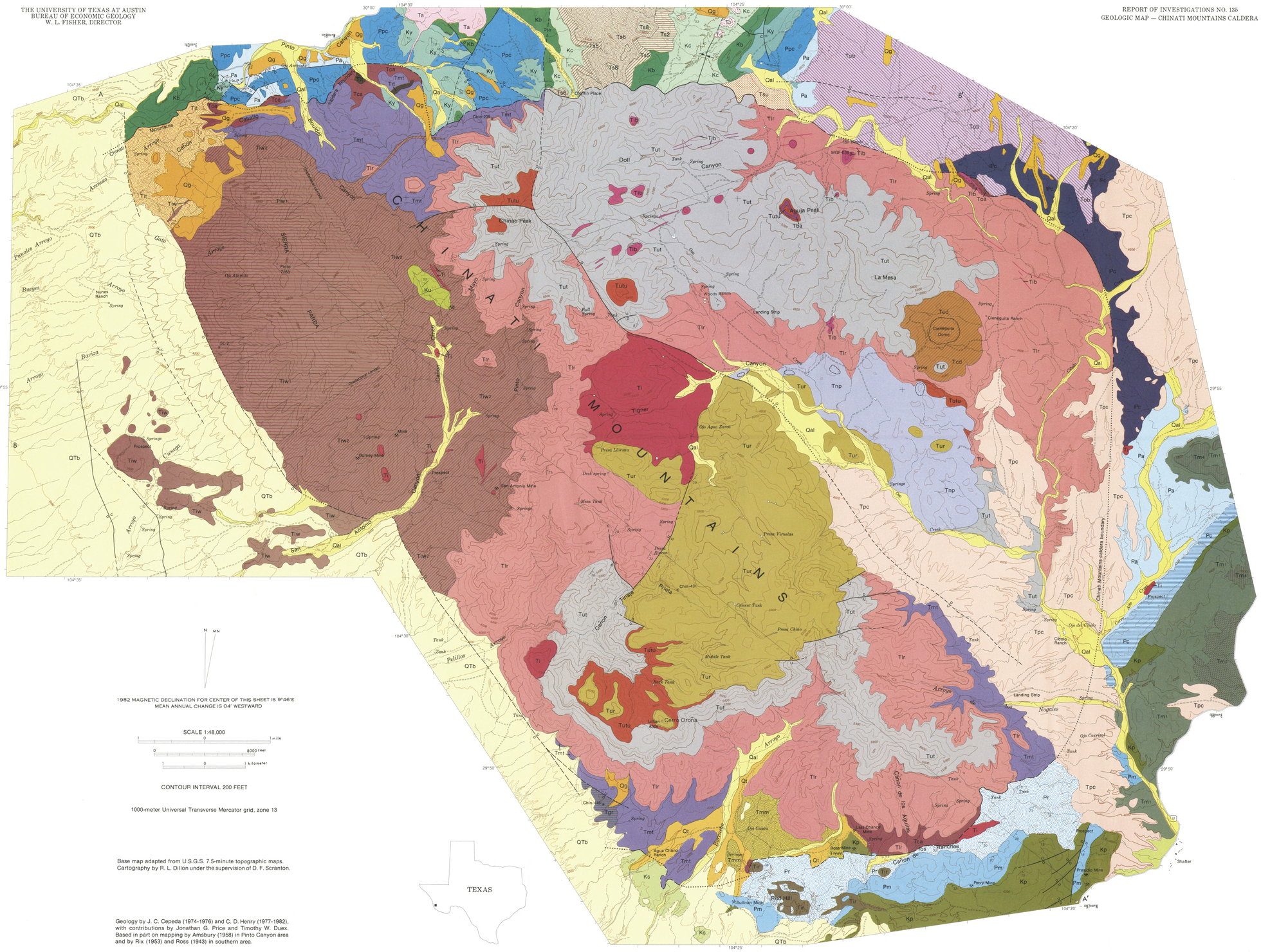
THE UNIVERSITY OF TEXAS AT AUSTIN
BUREAU OF ECONOMIC GEOLOGY
W. L. FISHER, DIRECTOR

REPORT OF INVESTIGATIONS NO. 135

GEOLOGIC MAP — CHINATI MOUNTAINS CALDERA



N MN

1982 MAGNETIC DECLINATION FOR CENTER OF THIS SHEET IS 9°46′E
MEAN ANNUAL CHANGE IS 04′ WESTWARD

SCALE 1:48,000

1 0 1 mile
0 8000 feet
1 0 1 kilometer

CONTOUR INTERVAL 200 FEET

1000-meter Universal Transverse Mercator grid, zone 13

Base map adapted from U.S.G.S. 7.5-minute topographic maps.
Cartography by R. L. Dillon under the supervision of D. F. Scranton.

Geology by J. C. Cepeda (1974-1976) and C. D. Henry (1977-1982), with contributions by Jonathan G. Price and Timothy W. Duex. Based in part on mapping by Amsbury (1958) in Pinto Canyon area and by Rix (1953) and Ross (1943) in southern area.

EXPLANATION

QUATERNARY
- Qal — Alluvium
- Qg — Gravel, talus, and colluvium
- Qt — Terrace deposits

TERTIARY
Pleistocene to Miocene
- QTb — Basin fill in Presidio Bolson—sandstone, siltstone, and conglomerate
- Tpc — Perdiz conglomerate

Oligocene
Chinati Mountains Group
- Tiw, Tiw2, Tiw1, Tgr, Ti, Tib — Intrusive rocks of the Chinati Mountains caldera—Tiw, West Chinati Stock undifferentiated; Tiw2, West Chinati Stock quartz monzodiorite; Tiw1, West Chinati Stock granite; Tib, blue dikes and plugs; Tit, trachyte intrusions; Ti, intrusive rocks of the Chinati Mountains undifferentiated
- Tgr — Gonzales rhyolite, possibly correlative with upper rhyolite
- Tur — Upper rhyolite; peralkaline lithic crystal ash-flow tuff
- Tnp — Non-porphyritic domes and flows, pink to red flow-banded rhyolite
- Tutu, Tba, Tut — Upper trachyte; Tutu, coarse grained and more porphyritic upper part; Tba, basalt in upper part at Aguja Peak; Tut, finer grained, less porphyritic lower part
- Tlr, Tcd — Lower rhyolite; anorthoclase-phyric rhyolitic lava flows; Tcd, Cienegulta dome
- Tmt — Middle trachyte
- Tlt — Lower trachyte
- Tcs — Collapse agglomerate; agglomerate, breccia, and conglomerate along caldera margin
- Tmm — Mitchell Mesa Rhyolite; rhyolitic ash-flow tuff

Pinto Canyon (Northern) area

Shely Group
- Tsu — Shely Group, undifferentiated
- Ts8 — Rhyolitic ash-flow tuff
- Ts6 — Rhyolitic ash-flow tuff
- Ta — Allen Intrusions; rhyolites, vitrophyres, and perlites
- Ts5 — Tuffaceous sandstone and conglomerate

Infernito Caldera
- Ts2 — Porphyritic trachytic lava flows (formerly part of Shely Group)
- Tsi — Post-collapse rocks of Infiernito caldera; rhyolitic and trachytic lava flows
- Tok — Ojo Bonito intrusion; biotite-hornblende quartz monzonite

- Kc — Cox Formation; sandstone with minor nodular limestone and shale
- Kb — Bluff Formation; white, thick-bedded limestone and gray nodular limestone with minor sandstone
- Ky — Yucca Formation; limestone conglomerate, calcarenite and sandstone
- Ku — Cretaceous rocks undifferentiated (roof pendant within West Chinati Stock)

PERMIAN
- Ppc — Pinto Canyon Formation; gray limestone interbedded with chert
- Pa — Alta Formation; gray, thin-bedded mudstone with minor calcareous sandstone

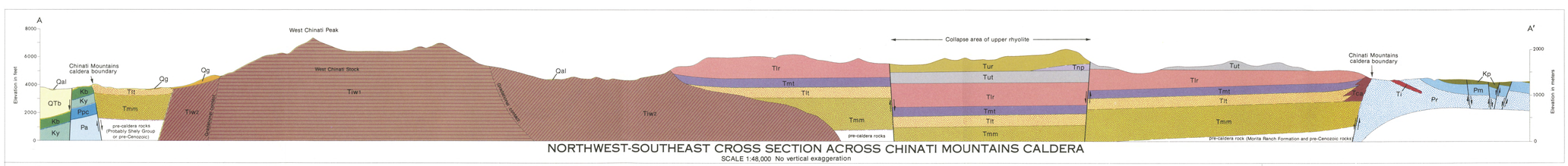
Shafter (Southern) area

Morita Ranch Formation
- Tm — Quartz monzonite porphyry intrusion of Red Hill and related intrusions; relative age uncertain
- Tm4 — Rhyolitic ash-flow tuff; correlative with Ts6
- Tmz — Basalt
- Tm1 — Rhyolitic ash-flow tuff and lava flows

- Ks — Shafter Formation; interbedded terrigenous sandstone and nodular limestone
- Kp — Presidio Formation; sandstone, conglomerate, and limestone

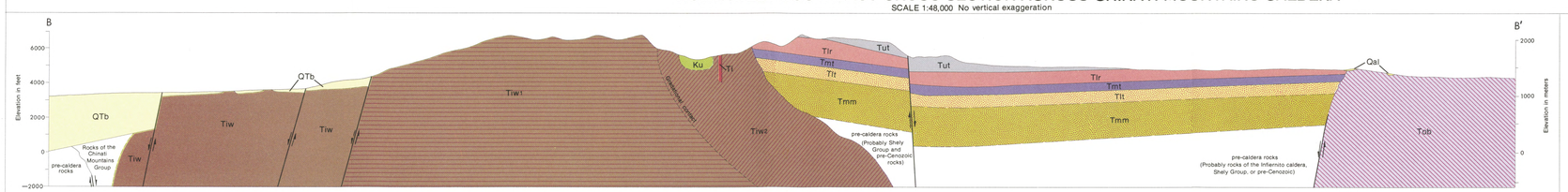
PENNSYLVANIAN
- Pm — Mina Grande Formation; limestone and dolomitic limestone
- Pr — Ross Mine Formation; sandstone, shale, and minor limestone
- Pc — Cibolo Formation; shale and limestone
- Pa — Alta Formation; dark shale and thin layers of yellow sandstone
- Pc — Cieneguita Formation; quartz-pebble conglomerate, medium to coarse grained sandstone, and minor limestone

- Contact, dashed where approximately located, dotted where buried
- Fault, showing upthrown U and downthrown D sides, dashed where approximately located, dotted where buried
- Boundary of Chinati Mountains caldera, dashed where approximately located; dotted where buried
- Axis of syncline
- Strike and dip of bedding
- Dome
- * Location of K-Ar samples



NORTHWEST-SOUTHEAST CROSS SECTION ACROSS CHINATI MOUNTAINS CALDERA

SCALE 1:48,000 No vertical exaggeration



WEST-SOUTHWEST—EAST-NORTHEAST CROSS SECTION ACROSS CHINATI MOUNTAINS CALDERA

SCALE 1:48,000 No vertical exaggeration

GEOLOGIC MAP OF CHINATI MOUNTAINS CALDERA

PRESIDIO COUNTY, TEXAS

1983