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Geology of the Bernalillo and Placitas quadrangles, Sandoval County, New Mexico

17 February 2000 Revision

Bernalillo quadrangle
NMBMMR OF-GM-16
May 1998

Sean D. Connell¹

Placitas quadrangle
NMBMMR OF-GM-2
June 1995

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component of the National Cooperative Geologic Mapping Program coordinated by the
U.S. Geological Survey and the New Mexico Bureau of Mines and Mineral Resources.

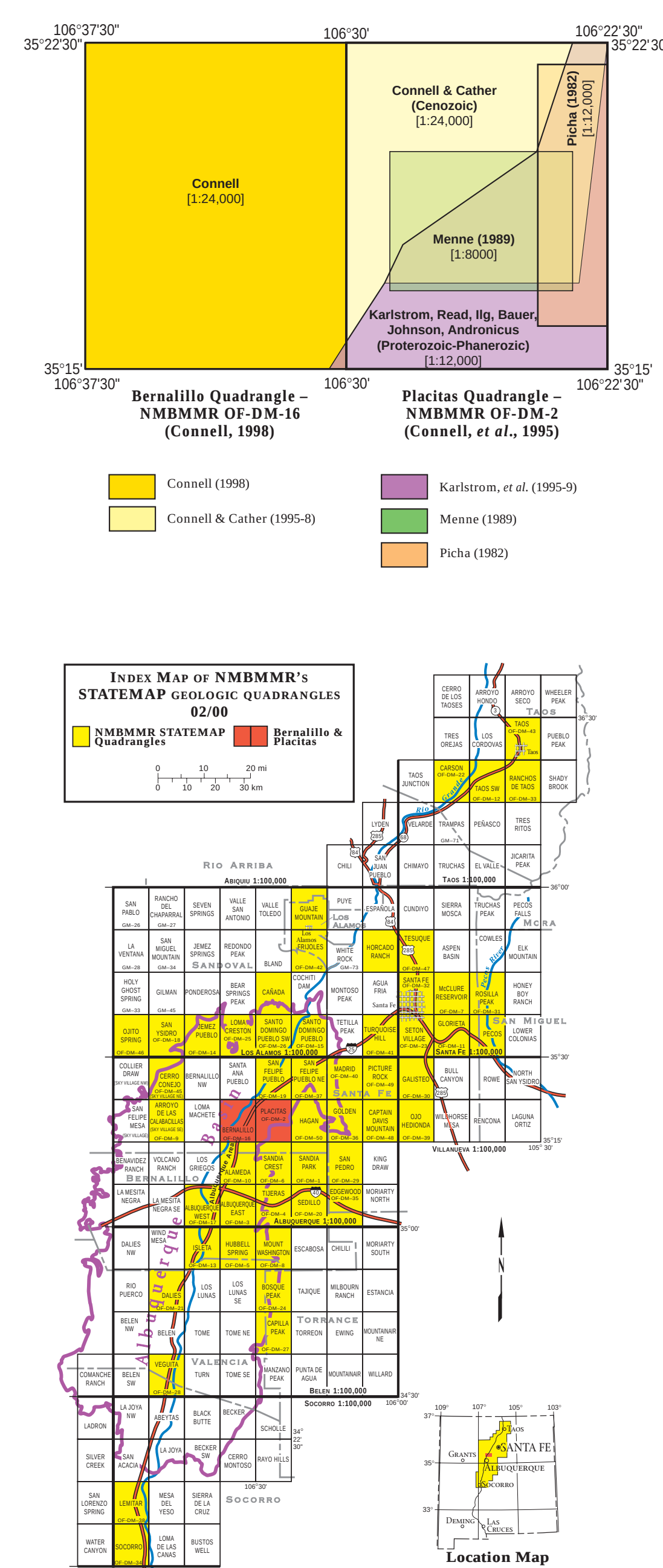
A geologic map graphically displays information on the distribution, nature, orientation and age relationships of
rock and surficial units and the occurrence of structural features. These data are derived from geologic field mapping,
completion of published and unpublished work, analyses of borehole geophysics and well-cuttings, and photogeologic
interpretation. Locations of geologic unit contacts are not surveyed; therefore, the accuracy of contact locations
depends on the scale of mapping and the interpretation of the geologists. Portions of the study area were mapped
on scales larger than depicted on the geologic map; therefore, the user should be aware of significant variations in
map detail. Any enlargement of this map could cause misunderstanding in the detail of mapping and may result in
erroneous interpretations. Site-specific conditions should be verified by detailed surface mapping or subsurface
exploration.

This map has not been reviewed according to New Mexico Bureau of Mines and Mineral Resources standards.
Revision of the map is likely because of the ongoing nature of work in the region (Please note the date of last
modification in the upper right of this map). The contents of this map and associated report should not be considered
final and complete until reviewed and published by the New Mexico Bureau of Mines and Mineral Resources. The
views and conclusions contained in this document are those of the authors and should not be interpreted as necessarily
representing the official policies, either expressed or implied, of the State of New Mexico or the U.S. Government.

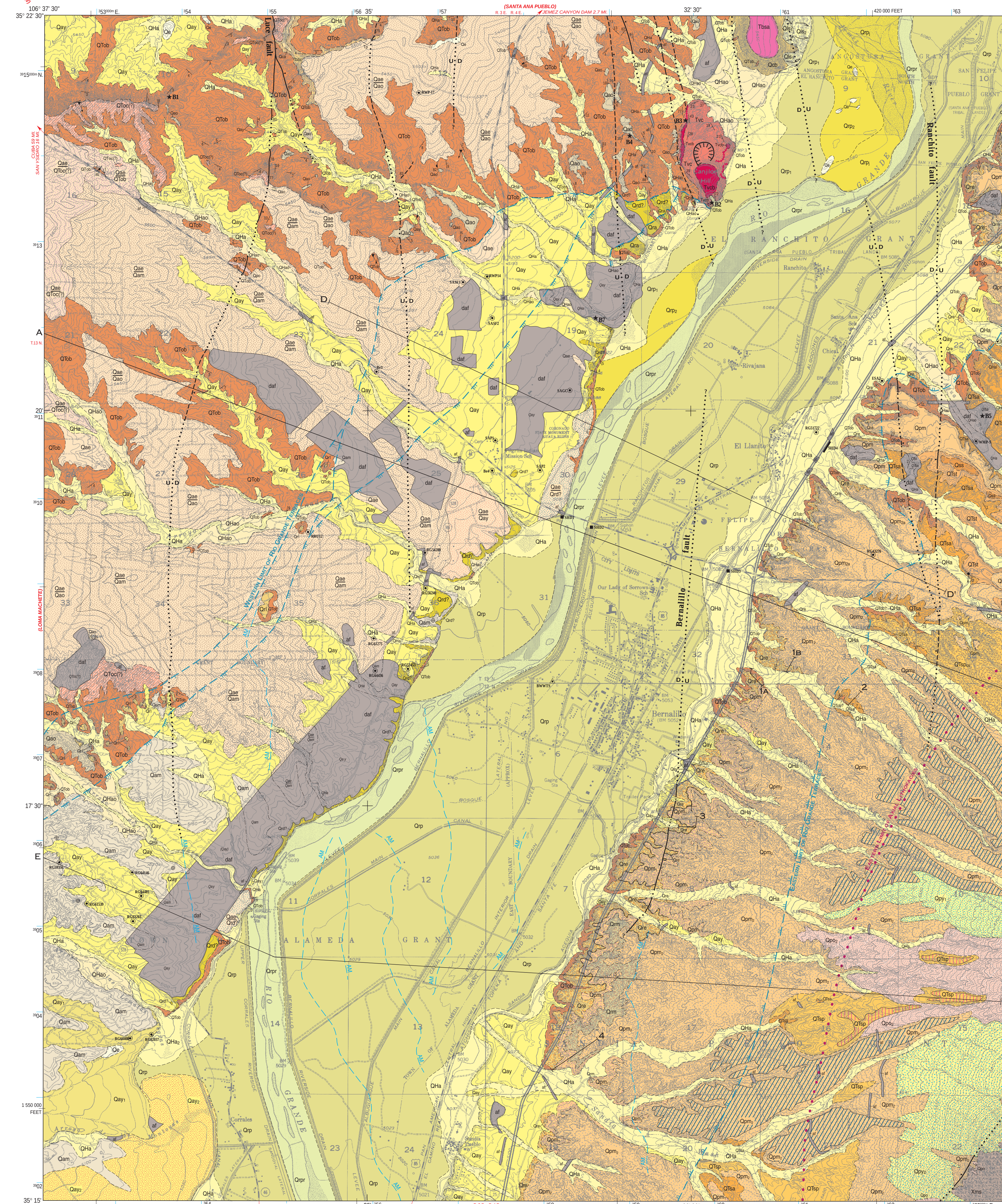
EXPLANATION OF MAP SYMBOLS

- [B]—[B]** Location of geologic cross section
Geologic contact—solid where exposed, dashed where approximately located, dotted where concealed
Geologic contact interpreted location within units of and/or
Approximate location of buried contact separating the ancestral Rio Grande alluvial deposits (Qta) and piedmont
deposits (Qtp) of the Upper Santa Fe Group on the Bernalillo quadrangle
Approximate location of contact separating the piedmont (Qtp) and piedmont (Qtpu) and Qtpu) deposits of the
Upper Santa Fe Group on the Placitas quadrangle, dotted where concealed
Normal fault—Tc, showing dip; solid where exposed, dashed where approximately located, dotted where concealed,
opened where inferred, left and bar on downthrown side, upthrown (U) and downthrown (D) side indicated where
concealed only or inferred
Reverse fault—Tr, showing dip; solid where exposed, dashed where approximately located, dotted where concealed;
left on upthrown side, left and bar on downthrown side where reconstructed as a left-slip normal fault
Anticline—Trace of axial plane showing direction of plunge; dashed where approximately located, dotted where
concealed, opened where inferred
Syncline—Trace of axial plane showing direction of plunge; dashed where approximately located, dotted where
concealed, opened where inferred
Monocline with vertical bend—Trace of axial plane, short arrow on steeper bend; dashed where approximately
located, dotted where concealed, opened where inferred
Monocline with synclinal bend—Trace of axial plane, short arrow on steeper bend; dashed where approximately
located, dotted where concealed, opened where inferred
Belted or gorge zones
Stitchlines on fault
Strike and dip of bedding, horizontal bedding
Strike and dip of overturned bedding—bold indicates top of beds known from sedimentary structures
Strike and dip of joint or fracture
Strike and dip of S1 foliation
Strike and dip of S2 foliation
Strike and dip of magnetic foliation in granite defined by alignment of megacrysts
Magnetic foliation in granite defined by mafic enclaves
Trend and plunge of lineation—defined by elongate minerals or stretched grains
Metamorphic facies—Showing boundary between diagnostic mineral assemblages
Metamorphic mineral locality—[1] sillimanite, [2] andalusite, [3] sillimanite and kyanite, [4] sillimanite, cordierite
+ kyanite, [5] sillimanite, cordierite, [6] sillimanite, cordierite, [7] cordierite, [8] cordierite, [9] cordierite, [10]
cordierite, [11] cordierite + quartz
Dike/fault direction—measured controls of indicated dikes
Gneiss with foliation to western basement deposits
Gneiss with foliation to ancestral Rio Grande fluvial facies
Gneiss with foliation to eastern basement deposits
Approximate extent of buried fluvial terrace sites of the ancestral Rio Grande (post Santa Fe Group)—hatched
towards fluvial terraces, towards Negro Fm. (large hatched line), Santa Fe Fm. (small hatched line), Los Hornos
Fm. (large hatched line), and Arroyo Fm. (quadrangle hatched line)
Aeromagnetic anomaly—Interpreted from U.S. Geological Survey and State Geosciences, Inc. (1998)
Mine or quarry, solid, dashed
Direction of landslide failure and surface movement
Basalt flow
Approximate boundary of full ring
Selected locality, Placitas (P) and Bernalillo (B) quadrangles
Water supply well, included abbreviation
Exploratory or groundwater monitoring well, including abbreviation
Exploratory geophysical boring, including abbreviation
Los Hornos geophysical surface
Del Agua geophysical surface

INDEX TO GEOLOGIC MAPPING



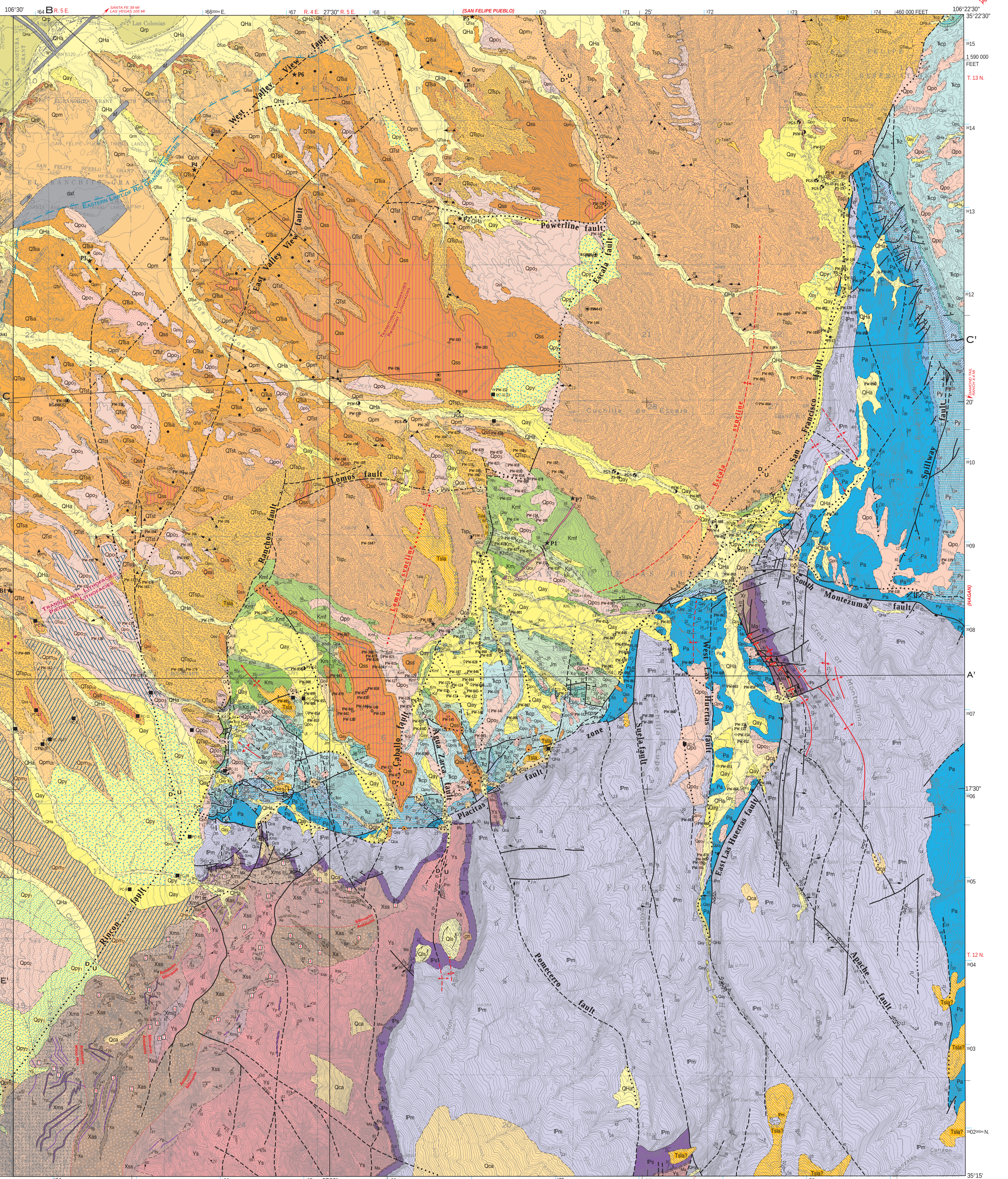
BERNALILLO QUADRANGLE NEW MEXICO



Base from U.S. Geological Survey 1974, photorevised 1972
Placitas quadrangle, 1972 North American datum
UTM GRID AND 1972 MAGNETIC NORTH
DECLINATION CENTER OF 1983

SCALE 1:24,000
BERNALILLO QUADRANGLE, 35 FEET
PLACITAS QUADRANGLE, 35 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1985

PLACITAS QUADRANGLE NEW MEXICO



Base from U.S. Geological Survey 1974
Placitas quadrangle, 1972 North American datum
UTM GRID AND 1972 MAGNETIC NORTH
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GEOLOGIC CROSS SECTION A-A'

