

Dr. Peter A. Scholle
Director and State Geologist



Dr. Paul W. Bauer
Geologic Mapping
Program Director

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

Plate I of III.
17 February 2000 Revision

Bernalillo quadrangle
NMBMMR OF-GM-16
May 1998

Sean D. Connell¹

Placitas quadrangle
NMBMMR OF-GM-2
June 1995

Sean D. Connell¹, Steve M. Cather², Bradley Hg³,
Karl E. Karlstrom³, Barbara Menne³, Mark Picha³,
Chris Andronikos³, Adam S. Read³, Paul W. Bauer²,
and Peggy S. Johnson²

¹New Mexico Bureau of Mines and Mineral Resources, Socorro, NM 87801,
Albuquerque Office, Albuquerque, NM 87106

²New Mexico Bureau of Mines and Mineral Resources, Socorro, NM 87801

³Department of Earth and Planetary Sciences, University of New Mexico, Albuquerque, NM 87131

David J. McCraw

Mark M. Mansell

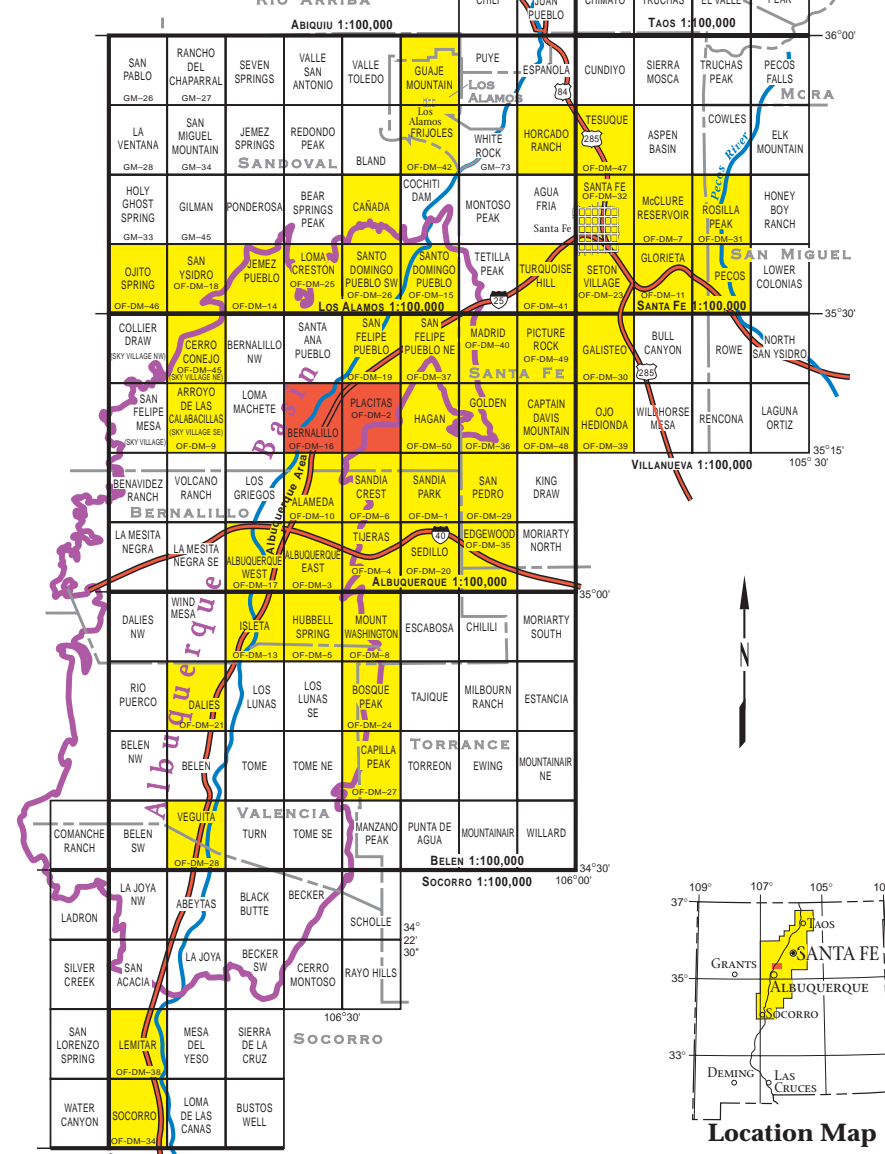
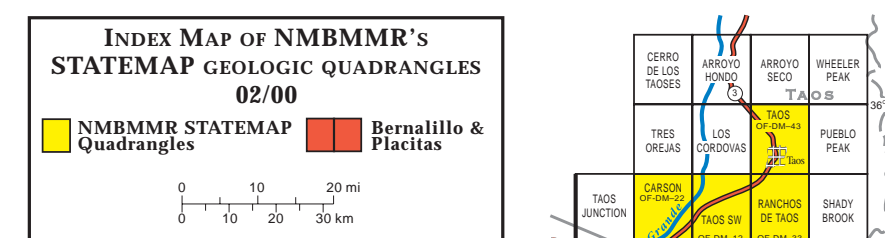
Glen E. Jones

Robert J. Titus

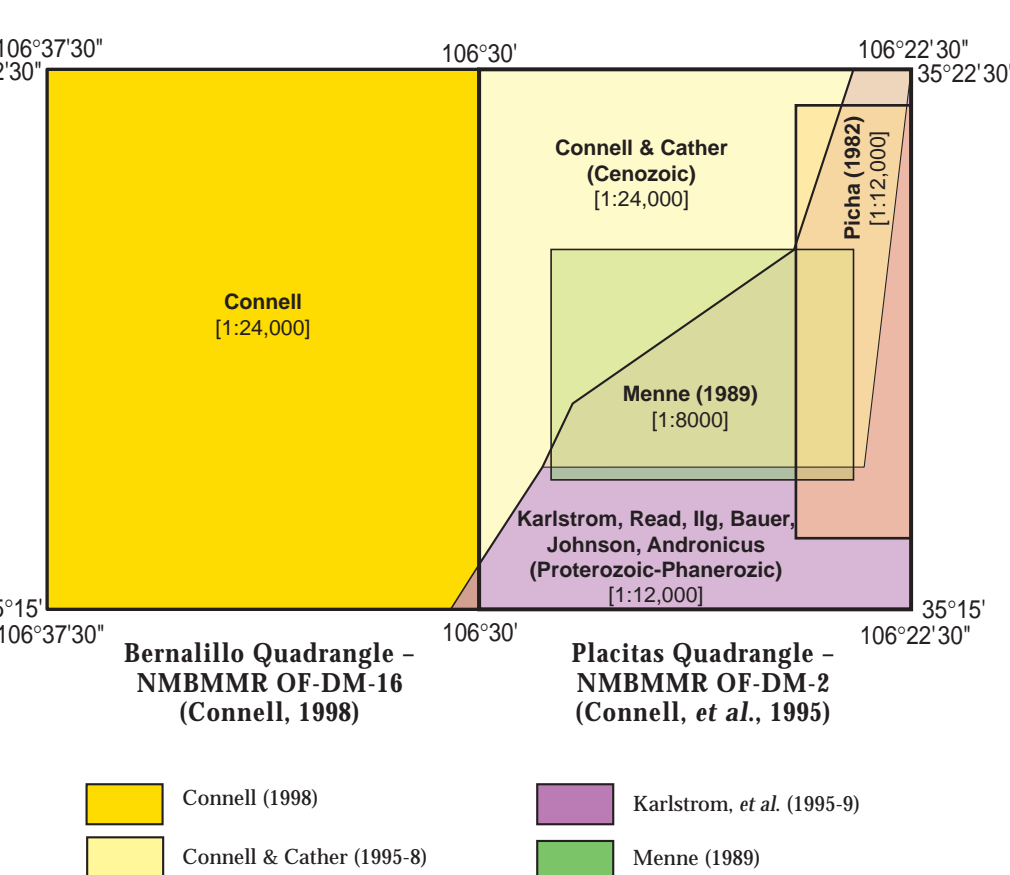
Digital Cartography

EXPLANATION OF MAP SYMBOLS

- 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 (Q_{1a}) and piedmont deposits (Q_{1p}) of the Upper Santa Fe Group on the Bernalillo quadrangle
- Approximate location of contacts separating the transitional (Q_{2a}) and piedmont (Q_{2p}) deposits of the Upper Santa Fe Group on the Placitas quadrangle; dotted where concealed
- Normal fault—Tic showing dip; solid where exposed, dashed where approximately located, dotted where concealed, queried where inferred; ball and bar added where reactivated as a Tertiary normal fault
- Reverse fault—Tic showing dip; solid where exposed, dashed where approximately located, dotted where concealed, queried where inferred
- Anticline—Trace of axial plane showing direction of plunge; dashed where approximately located, dotted where concealed, queried where inferred
- Syncline—Trace of axial plane showing direction of plunge; dashed where approximately located, dotted where concealed, queried where inferred
- Monocline with axial band—Trace of axial plane, short arrow on steeper bend; dashed where approximately located, dotted where concealed, queried where inferred
- Monocline with synclinal bend—Trace of axial plane, short arrow on steeper bend; dashed where approximately located, dotted where concealed, queried where inferred
- Breccia or gouge zones
- Slickensides on fault
- Strike and dip of bedding, horizontal bedding
- Strike and dip of overturned bedding—ball 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 magmatic foliation in granite defined by alignment of megacrysts
- Magmatic 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 minerals locality—[1] sillimanite; [2] andalusite; [3] sillimanite and kyanite; [4] sillimanite + andalusite + kyanite; [5] sillimanite + andalusite + kyanite + cordierite; [6] sillimanite + andalusite + kyanite + cordierite + garnet; [7] sillimanite + andalusite + kyanite + cordierite + garnet + quartz
- Diatomite marker bed at top of Edith Formation (Q_{1e})
- Palaeoflow direction—measured azimuths of imbricated clasts
- Gravels with affinities to western basin-margin deposits
- Gravels with affinities to ancestral Rio Grande fluvial facies
- Gravels with affinities to eastern basin-margin deposits
- Approximate extent of buried fluvial terrace risers of the ancestral Rio Grande (post Santa Fe Group)—Hachured line (double hachured line), and Arenal Fm. (quadruple hachured line)
- Aeromagnetic anomaly (Interpreted from U. S. Geological Survey and Soil Geosciences, Inc., 1998)
- Mine or quarry, adit, shaft
- Direction of landslide failure and surface movement
- Basalt bed
- Approximate boundary of full ring
- Selected locality, Placitas (Pl) and Bernalillo (B) quadrangles
- Water-supply well, included abbreviation
- Exploratory or groundwater monitoring well, including abbreviation
- Exploratory geotechnical boring, including abbreviation
- Las Huertas geomorphic surface
- Del Agua geomorphic surface



INDEX TO GEOLOGIC MAPPING



COMMENTS TO MAP USERS

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, compilation 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 geologic map. Portions of the study area were mapped at 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 Plate I). 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.

This Study	Connell (1996)	Lambert (1968)
Q1a, Q1ao	Q9	Qya
Qrp, Qrp1, Qrp2, Qrp3	Q1p9	Q1a
Qay	Q8	Qya
Qay	Q7	Qya
Qy1		Qya
Qym	Qao2	Q1m
Qre	Qao1	Qe
Qpm	Q6	Qop
Qpo	Q5, Q4, Q3	Qop
Q1ob, Q1bp	Q2, Q11	Qut1, Tn