

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 Ilg³,
Karl E. Karlstrom³, Barbara Menne³, Mark Picha³,
Chris Andronikos³, Adam S. Read³, Paul W. Bauer²,
and Peggy S. Johnson²

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David J. McCraw

Mark M. Mansell

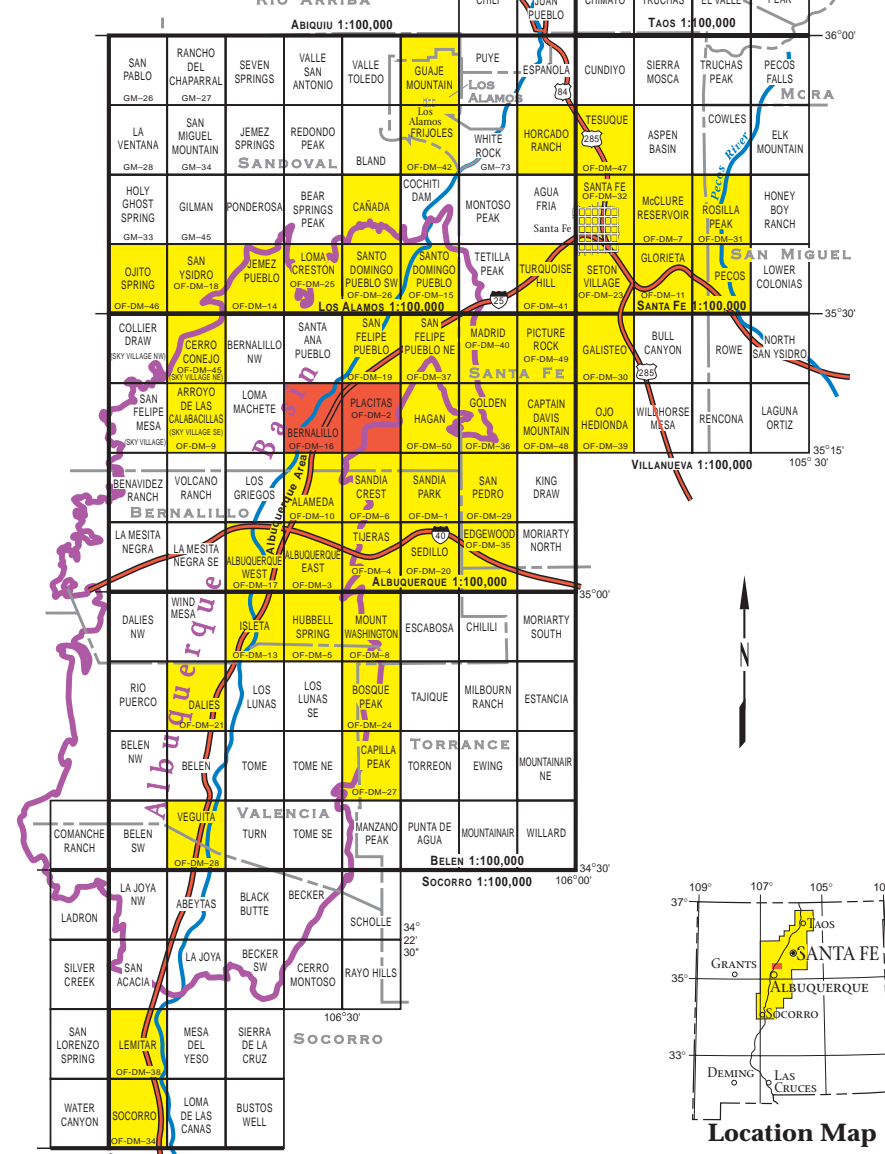
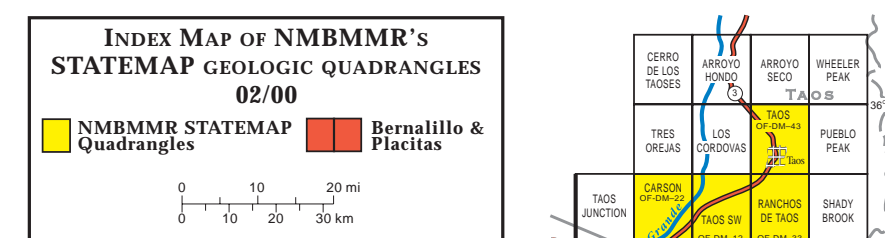
Glen E. Jones

Robert J. Titus

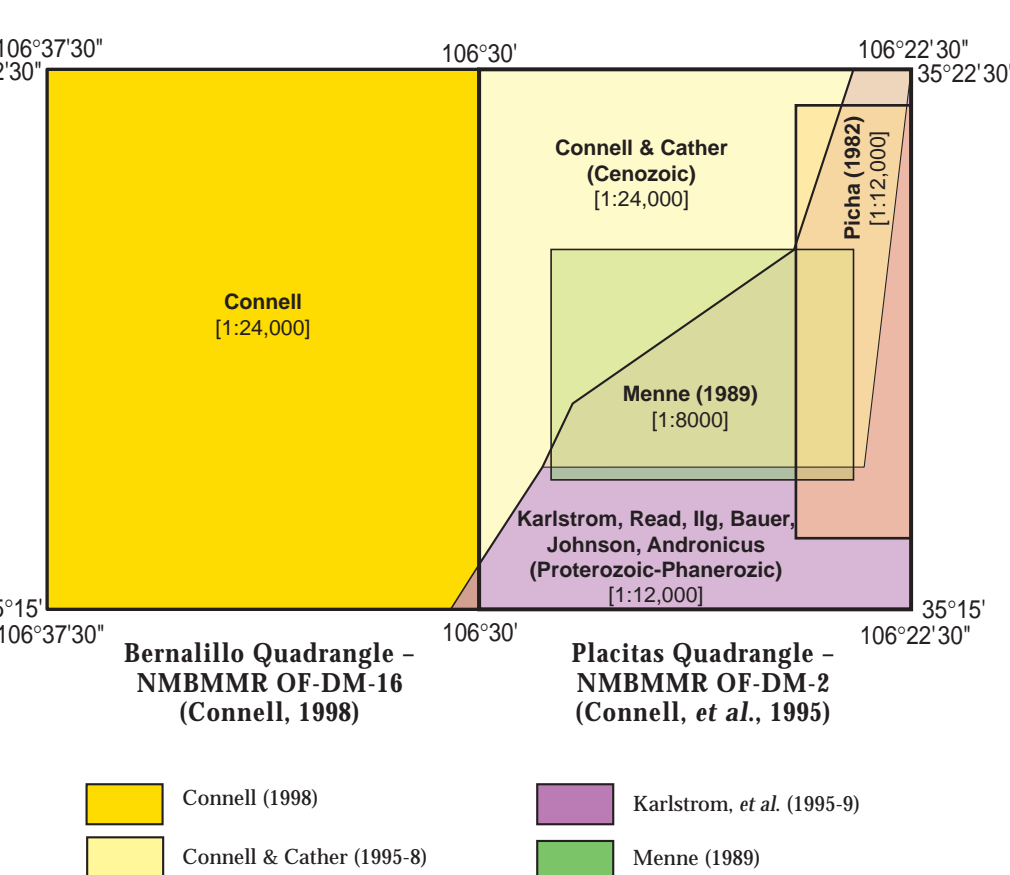
Digital Cartography

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 (Q1a) and piedmont deposits (Q1p) of the Upper Santa Fe Group on the Bernalillo quadrangle
- Approximate location of contacts separating the transitional (Q2a) and piedmont (Q2p) and (Q3p) 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 vertical band—Trace of axial plane, short arrow on steeper band; dashed where approximately located, dotted where concealed, queried where inferred
- Monocline with synclinal band—Trace of axial plane, short arrow on steeper band; dashed where approximately located, dotted where concealed, queried where inferred
- Breccia or gouge zones
- Slackensides 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 k-feldspar; [4] sillimanite + andalusite + k-feldspar and cordierite; [5] sillimanite + andalusite + k-feldspar; [6] cordierite + quartz; [7] wollastonite; [8] calcite + quartz
- Diatomite marker bed at top of Edith Formation (Q1e)
- Paleoflow 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. (single hachured line), and Arenal Fm. (double hachured line), Los Duranes Fm. (single hachured line), and Arenal Fm. (double 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

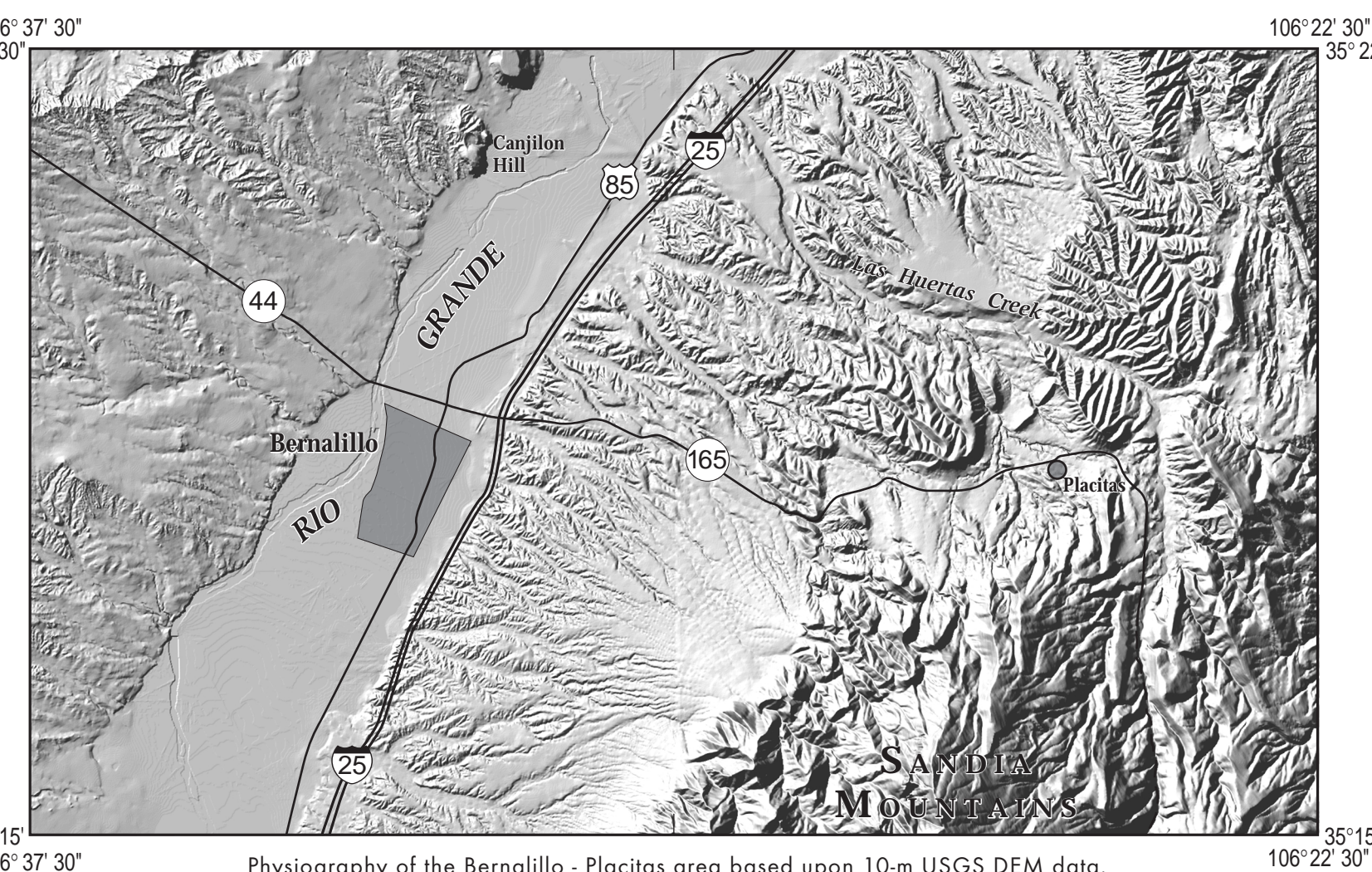


COMMENTS TO MAP USERS

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 misinterpretation 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 (1998)	Lambert (1988)
Q1a, Q1b	Q1	Q1a
Q1p, Q1r, Q1s	Q1p	Q1p
Q2a	Q2	Q2a
Q2p	Q2p	Q2p
Q3a	Q3	Q3a
Q3p	Q3p	Q3p
Q4a	Q4	Q4a
Q4p	Q4p	Q4p
Q5a	Q5	Q5a
Q5p	Q5p	Q5p
Q6a	Q6	Q6a
Q6p	Q6p	Q6p
Q7a	Q7	Q7a
Q7p	Q7p	Q7p
Q8a	Q8	Q8a
Q8p	Q8p	Q8p
Q9a	Q9	Q9a
Q9p	Q9p	Q9p
Q10a	Q10	Q10a
Q10p	Q10p	Q10p
Q11a	Q11	Q11a
Q11p	Q11p	Q11p





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PLATE II of III.
GEOLOGIC CROSS SECTIONS
1:24,000

17 February 2000 Revision

Bernalillo quadrangle
NMBMMR OF-DM-16
May 1998

Sean D. Connell¹

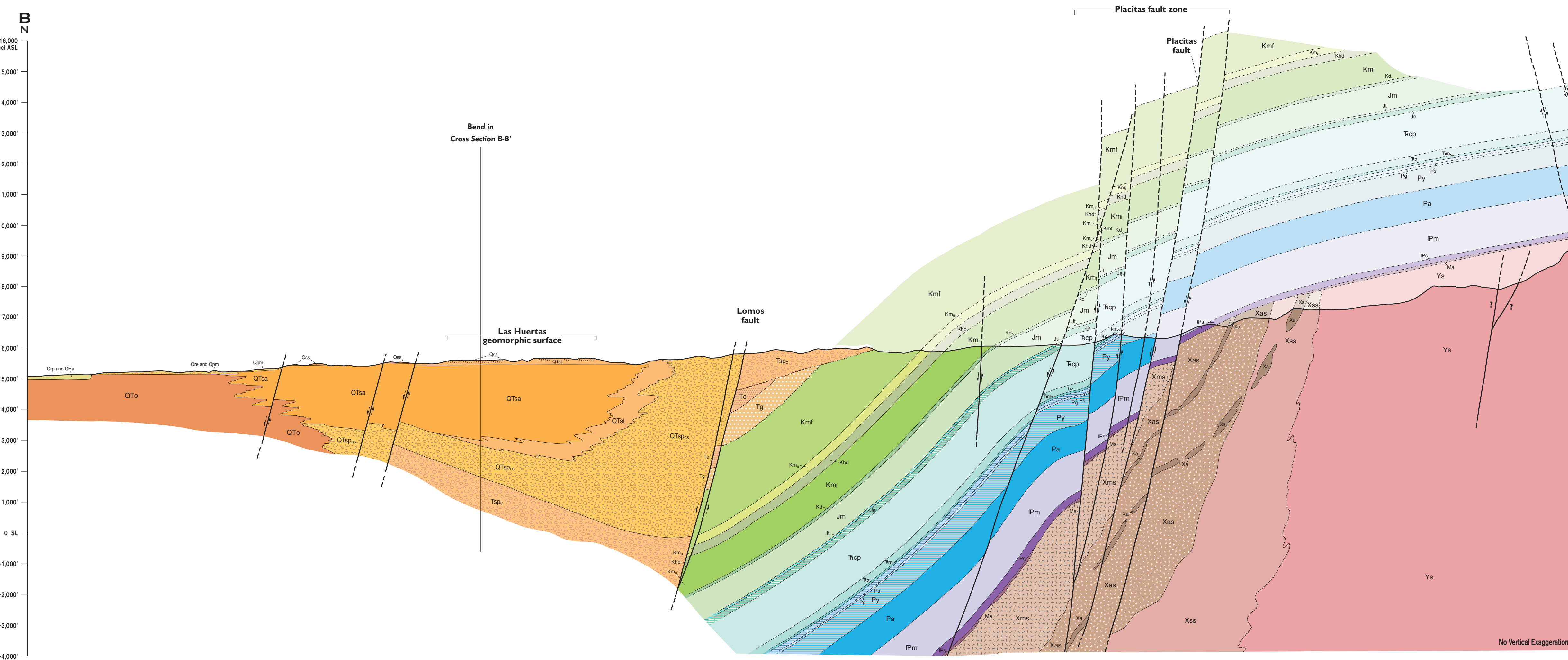
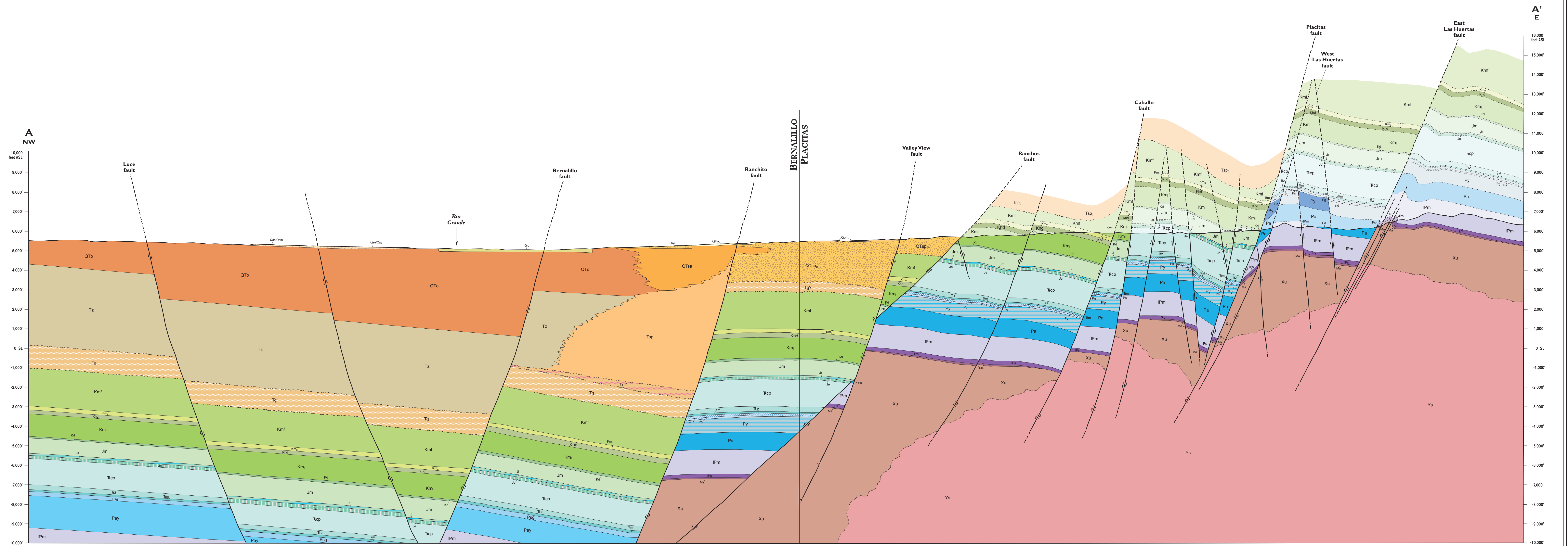
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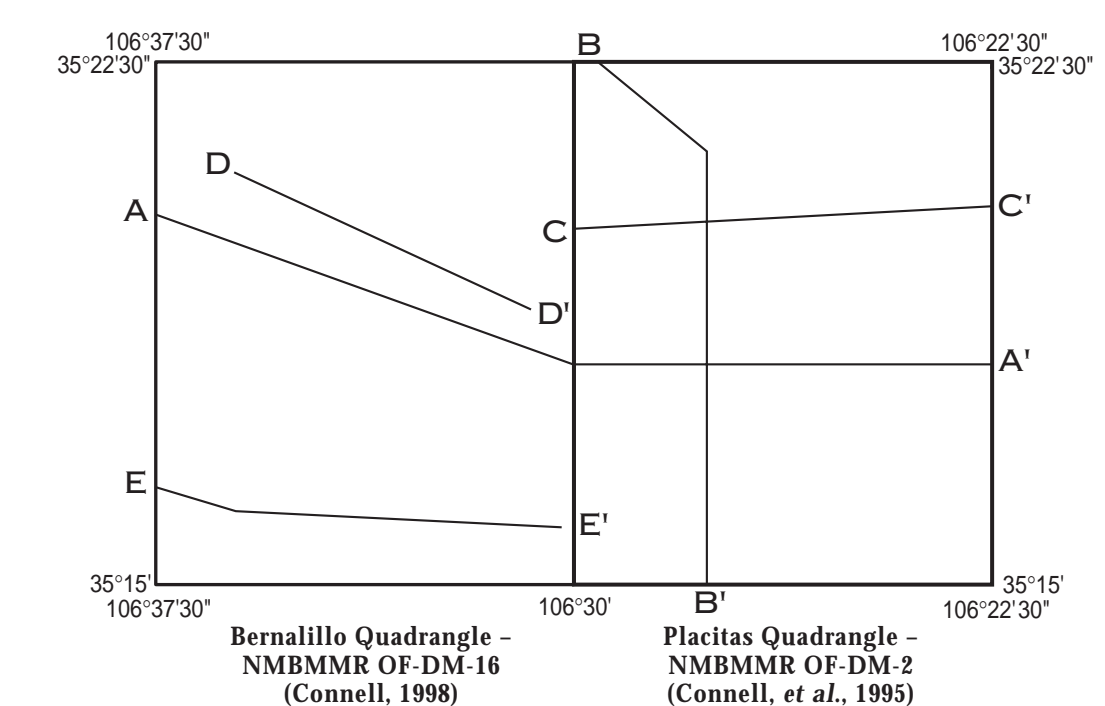
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CROSS SECTION LOCATIONS



Cross sections are constructed based upon the interpretation of the authors made from geologic mapping and available geophysical (regional gravity and aeromagnetic surveys), and subsurface (drillhole) data. Cross sections should be used as an aid to understanding the general geologic framework of the map area, and not be the sole source of information for use in locating or designing wells, buildings, roads, or other man-made structures.

