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Plates

in:
Caves and Karst of Southeastern New Mexico, Land, Lewis; Lueth, Virgil W.; Raatz, William; Boston, Penny; Love, David L. [eds.], New Mexico Geological Society 57th Annual Fall Field Conference Guidebook, 344 p.
https://doi.org/10.56577/FFC-57

This is a section from the 2006 NMGS Fall Field Conference Guidebook.

Annual NMGS Fall Field Conference Guidebooks

Every fall since 1950, the New Mexico Geological Society (NMGS) has held an annual Fall Field Conference that explores some region of New Mexico (or surrounding states). Always well attended, these conferences provide a guidebook to participants. Besides detailed road logs, the guidebooks contain many well written, edited, and peer-reviewed geoscience papers. These books have set the national standard for geologic guidebooks and are an essential geologic reference for anyone working in or around New Mexico.

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PLATE 1 - CAVES AND KARST OF SOUTHEASTERN NEW MEXICO



PLATE 1. Complete image of the cover photograph. Giant speleothems, the general term for the secondary mineral decorations in caves, can reach enormous proportions like this grouping known as “Goliath” located near the entrance of Cottonwood Cave in the Guadalupe Mountains, New Mexico. Image courtesy of Dr. J. Michael Queen amd colleagues.

PLATE 2: LANDSAT ETM+ IMAGE
SOUTHEAST NEW MEXICO AND NORTHWEST TEXAS

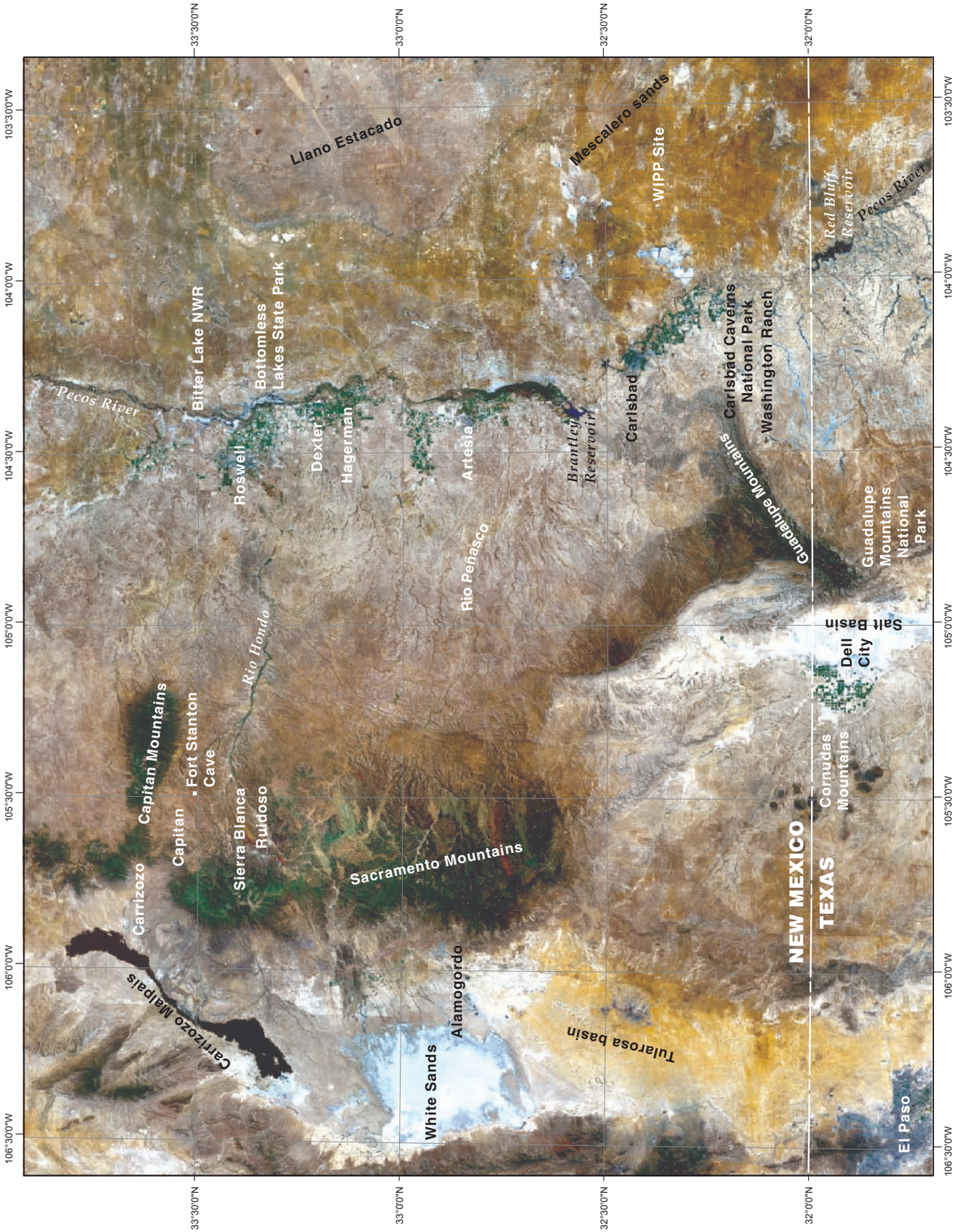


PLATE 3: GEOLOGIC MAP OF SOUTHEAST NEW MEXICO

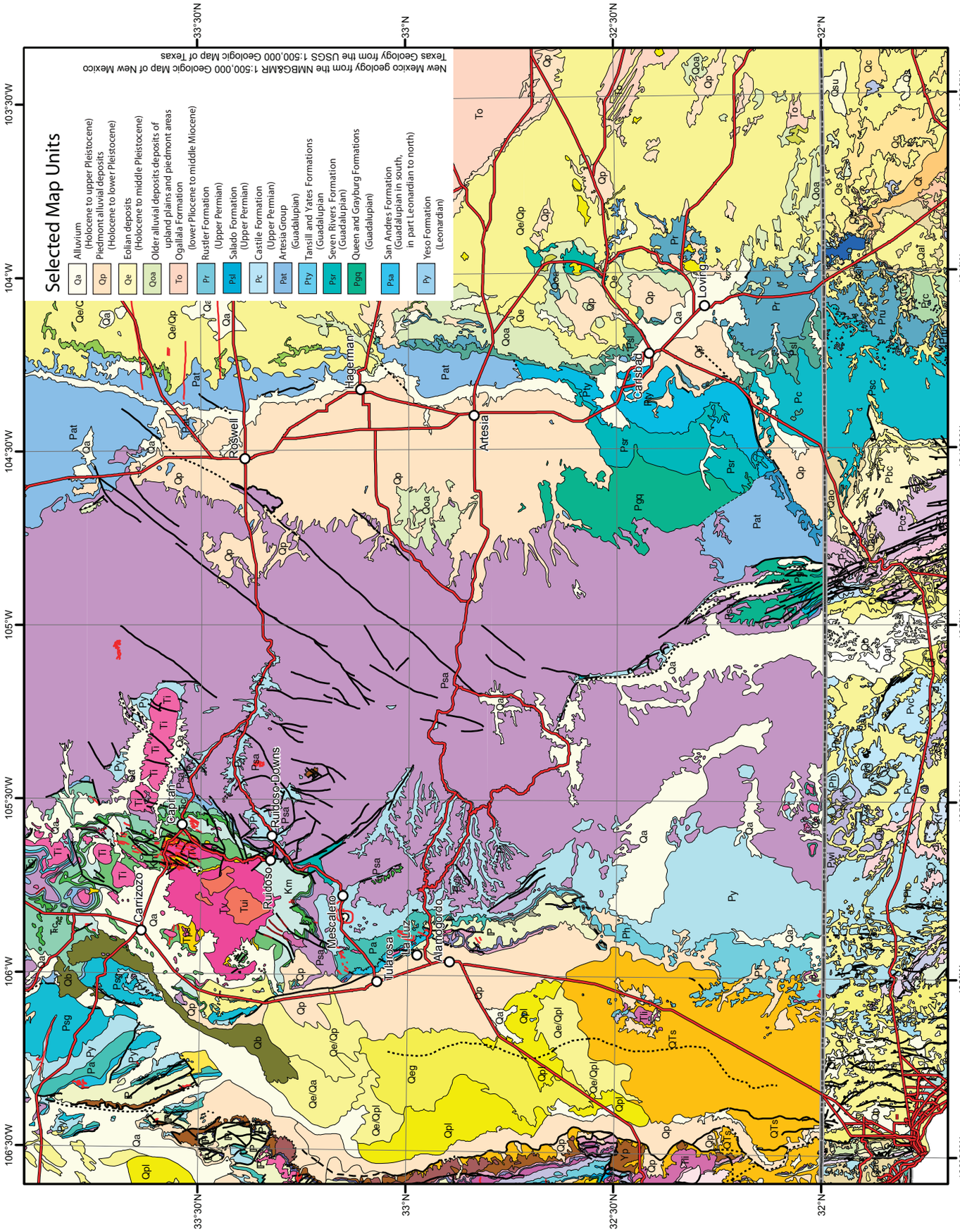
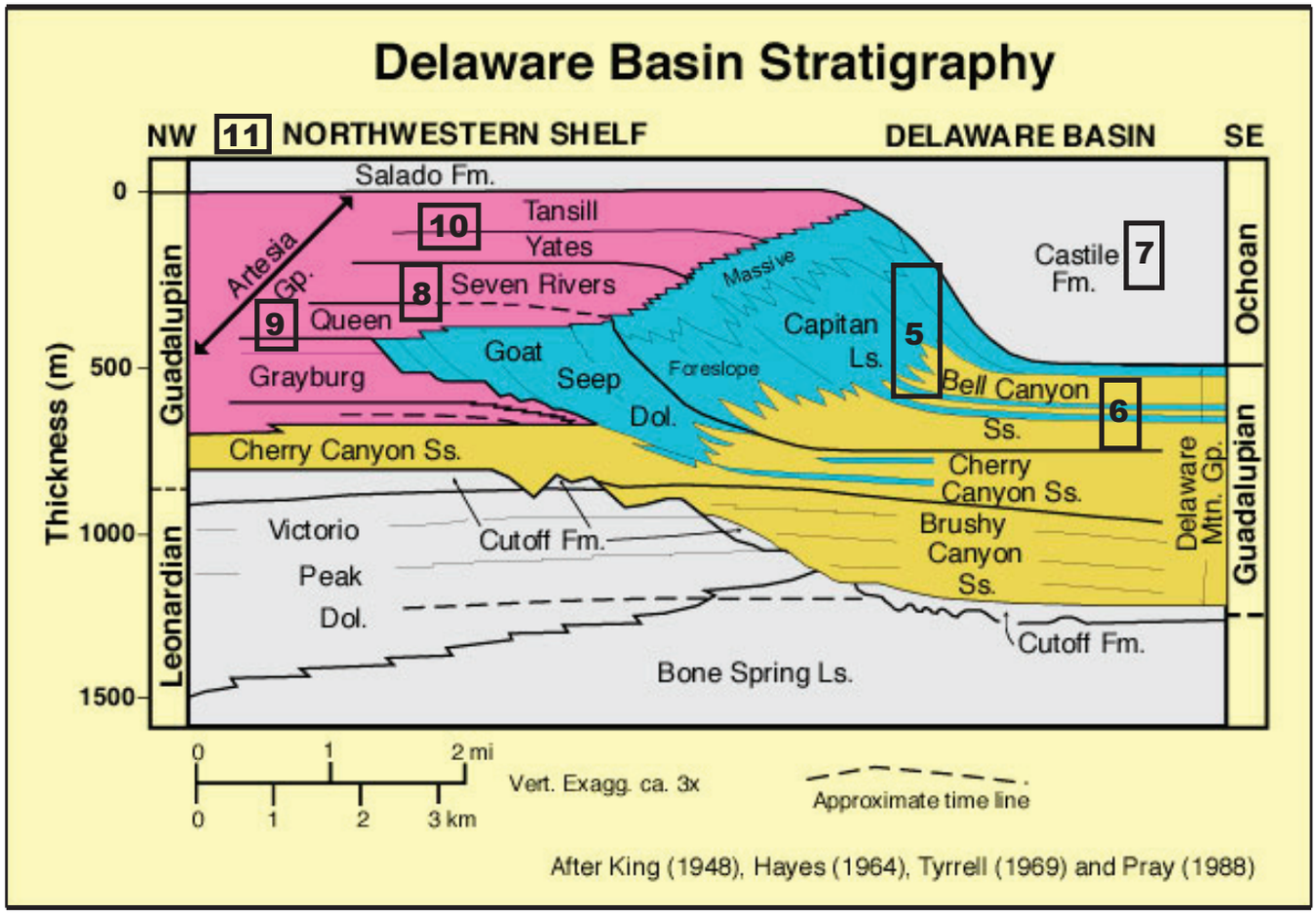


PLATE 4: PHOTOSTRATIGRAPHY OF SOUTHEASTERN NEW MEXICO AND WEST TEXAS



7 Plate Number

PLATE 4. Stratigraphic nomenclature of the Permian strata exposed in the Guadalupe Mountains. Boxed areas with numbers represent approximate stratigraphic locations for the various photostratigraphic plates .

PLATE 5: PHOTOSTRATIGRAPHY OF SOUTHEASTERN NEW MEXICO CAPITAN LIMESTONE AND DELAWARE MOUNTAIN GROUP



PLATE 5A. Capitan Reef and forereef talus exposed on the north side of the mouth of Salughter Canyon. See minipaper by Brown on Slaughter Canyon geology on page 22.



PLATE 5B. Capitan Reef and forereef talus facies overlying Delaware Mountain Group rocks at El Capitan, southern promontory of the Gudalupe Mountains in west Texas. The distinctive sandstone unit near the middle of the photograph is a deep water channel sand formed at the top of the Brushy Canyon Formation.

PLATE 6: PHOTOSTRATIGRAPHY OF SOUTHEASTERN NEW MEXICO
BELL CANYON FORMATION



PLATE 6A. Thin-bedded Larmar Limestone Member of the Bell Canyon Formation. See the minipaper by Brown for a detailed discussion of the outcrop on page 73.



PLATE 6B. Rader Formation submarine debris flow. Limestone cobble conglomerate with clasts ranging from pea size to boulders the size of a car are imbedded in a sandstone matrix. See discussion of this outcrop on page 52.

PLATE 7: PHOTOSTRATIGRAPHY OF SOUTHEASTERN NEW MEXICO
CASTILE FORMATION



PLATE 7A. Castile gypsum exposed in the famous State Line roadcut.



PLATE 7B. Microfolded varves in Castile gypsum at the State Line roadcut. See minipaper by Anderson for an expanded discussion of the paleoclimatic implications of the varves in the Castile.

PLATE 8: PHOTOSTRATIGRAPHY OF SOUTHEASTERN NEW MEXICO SEVEN RIVERS FORMATION



PLATE 8A. Cone butte, formed in gypsum and redbeds of the Seven Rivers Formation capped by dolomites of the Azotea Tongue. See page 9, mileage 45.5, for more information on this outcrop.



PLATE 8B. Contact of the Queen and Seven Rivers Formations. See the optioinal stop on page 11 for a more detailed description of this outcrop.

PLATE 9: PHOTOSTRATIGRAPHY OF SOUTHEASTERN NEW MEXICO QUEEN FORMATION

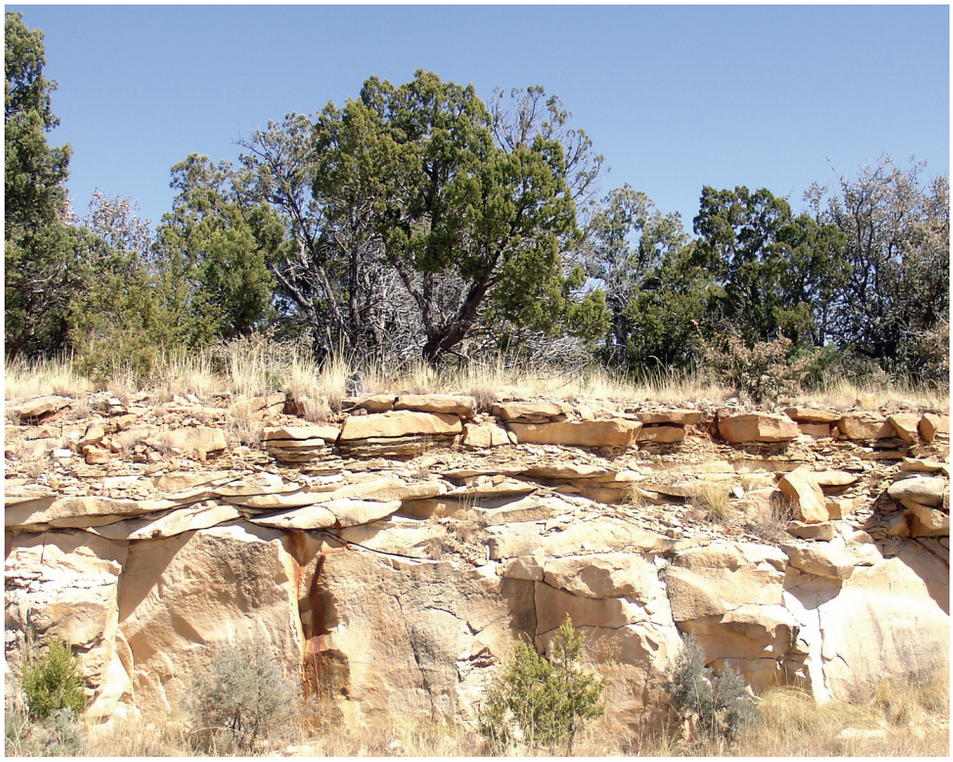


PLATE 9A. Flaggy Queen Formation sandstones in a roadcut at Hamm Vista.



PLATE 9B. Undulatory bedding in redbeds and dolomite of the Queen Formation.

PLATE 10: PHOTOSTRATIGRAPHY OF SOUTHEASTERN NEW MEXICO TANSILL AND YATES FORMATIONS



PLATE 10A. Contact of Yates and Tansill Formations at the top of the laterally continuous orange siltstone. See the description of this outcrop at Stop 2 on page 7.



PLATE 10B. Pisolitic dolomite in lower Dark Canyon. Please see description of Stop 2 on page 7 for more detailed discussion of these enigmatic pisolite units.

PLATE 11: PHOTOSTRATIGRAPHY OF SOUTHEASTERN NEW MEXICO
CULEBRA DOLOMITE MEMBER OF THE RUSTLER FORMATION



PLATE 11A. Small scale folding in the Culebra Dolomite Member of the Rustler Formation.



PLATE 10B. Close-up photo of the Culebra Dolomitie showing characteristic vuggy porosity caused by leaching of anhydrite.

PLATE 12: CAVE FEATURES



PLATE 12A. Green Lake room in Endless Cave. Penny Boston and Diana Northup are collecting samples of pool microorganisms. Photograph by Kenneth Ingram.



PLATE 12B. Lion's Tail in Carlsbad Cavern is an example of speleothem overpriinting. A conventional stalactite first forms aerially by the usual dripwater mechanism. Subsequently, the stalactite may be resubmerged by a rising water level forming a pool. Additionally, precipitation of crystals then grow on top of the stalactite producing the characteristic bushy appearance. Image courtesy of Dr. J. Michael Queen.

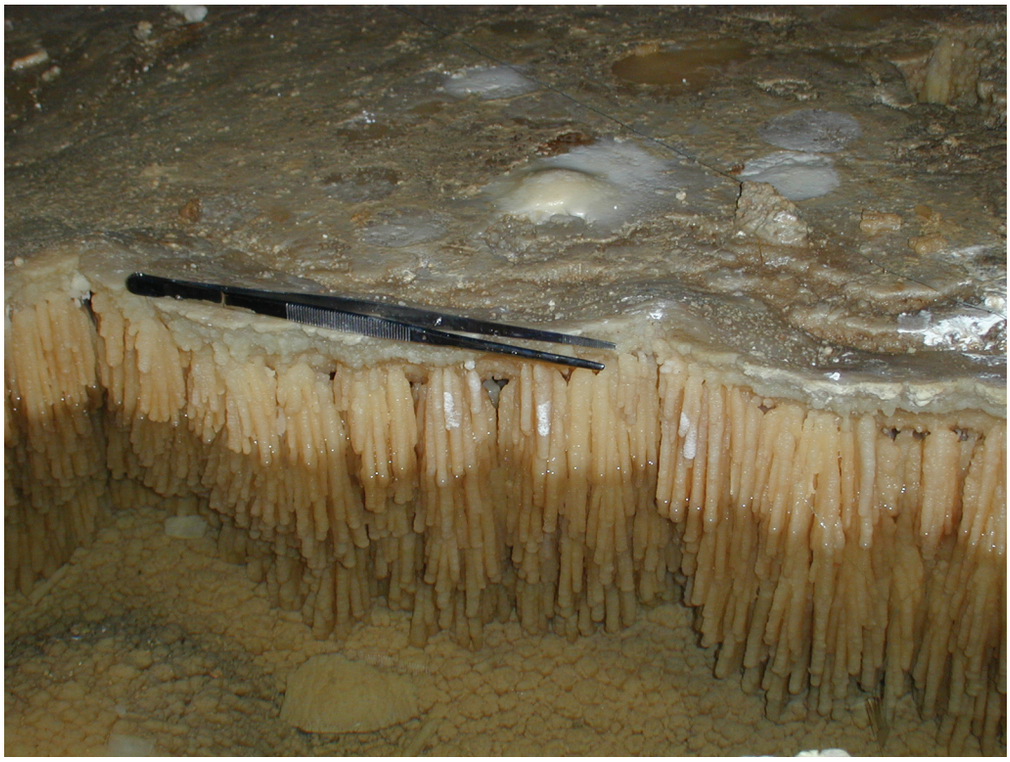


PLATE 13A. Carlsbad pool fingers. These sstructures may be created partly by cave pool microorganisms. Photograph by Kenneth Ingram.



PLATE 13B. “Picasso Rock.” Multicolored ferromanganese on a boulder in Lechuguilla Cave. Photograph by Val Hildreth-Werker.

PLATE 14: FORT STANTON CAVE - SNOWY RIVER PASSAGE



PLATE 14B. . The “Metro” in Fort Stanton Cave.



PLATE 14B. . The first three people on the Snowy River Formation in Fort Stanton Cave.

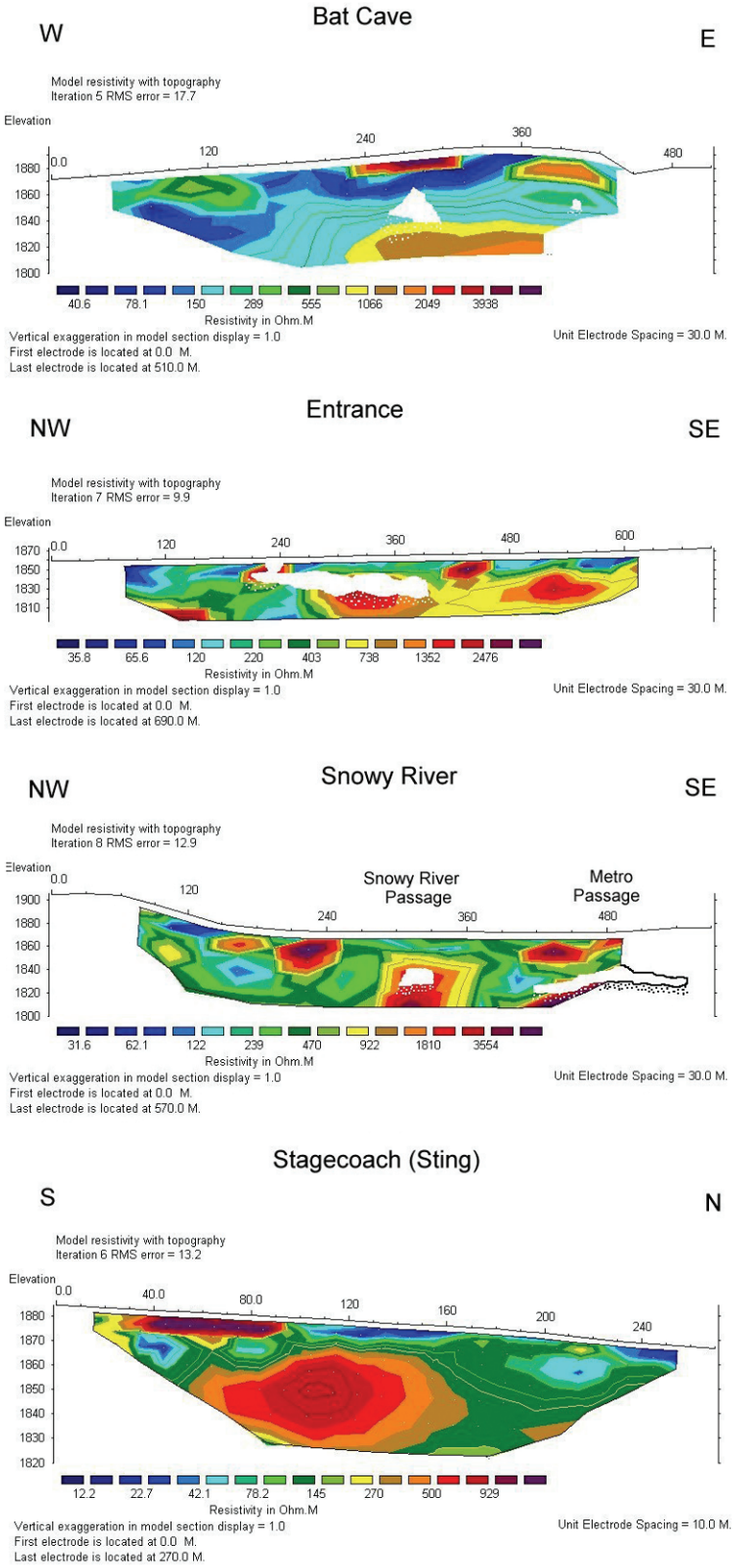


PLATE 15. See paper by McLean and Luke, p. 227, for details on the construction and interpretation of these profiles.

PLATE 16: EVAPORITE KARST AT BOTTOMLESS LAKES STATE PARK



PLATE 16A. Lazy Lagoon, formed in an abandoned channel of the Pecos River, appears to be a single body of water when water levels are high. The lake actually consists of three sinkholes with a maximum depth of > 25 m. Notice the large rotated slump blocks on the Seven Rivers Escarpment near the center of the image.



PLATE 16B. Overview of Lazy Lagoon during the summer months, when water levels are low due to increased irrigation pumping from the Artesian Aquifer.