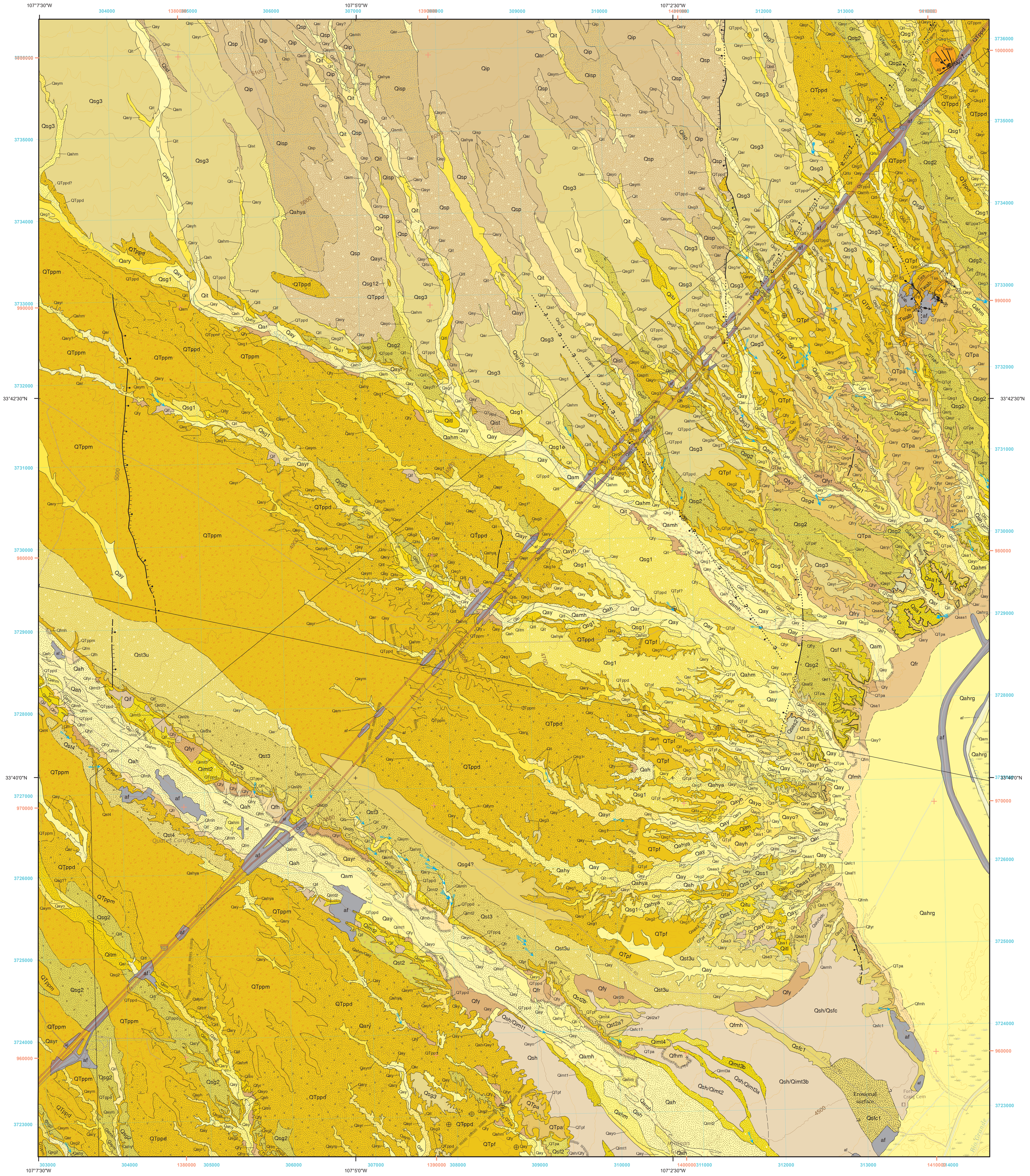

Base map from U.S. Geological Survey 2017.
North American Datum of 1983 (NAD83)
Projection and 1,000-meter grid: Universal Transverse Mercator, Zone 13S, shown in blue.
10,000-foot ticks: New Mexico Coordinate System of 1983 (central zone), shown in red.

Roads.......U.S. Census Bureau, 2015–2016
Names.......GNIS, 2016
Hydrography.......National Hydrography Dataset, 2014
Contours.......IFSAR 4.5 m Digital Terrain Model, 2008
Wetlands.......FWS National Wetlands Inventory 1977–2014

Puertecito Gap	Cienega Ranch	Indian Well Wilderness
Hickman Ranch	Fort Craig	San Marcial
Black Hill	Paraje Well	Pope

New Mexico

Magnetic Declination
July, 2020
7º 20' East
At Map Center

Quadrangle Location

1:24,000

Contour Interval 20 Feet
North American Vertical Datum of 1988

New Mexico Bureau of Geology and Mineral Resources
New Mexico Tech
801 Leroy Place
Socorro, New Mexico
87801-4796

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This and other STATEMAP quadrangles are available for free download in both PDF and ArcGIS formats at:

http://geoinfo.nmt.edu

Digital layout and cartography by the NMBGMR Map Production Group:
Phil L. Miller, Amy L. Dunn, Ann D. Knight, and Justine L. Nicolette

New Mexico Bureau of Geology and Mineral Resources
Open-File Geologic Map 288

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Geologic Map of the Fort Craig 7.5-Minute Quadrangle, Socorro County, New Mexico

June 2021

by
Daniel J. Koning[1], Kevin M. Hobbs[1], Kristen S. Pearthree[1], and David W. Love[1]

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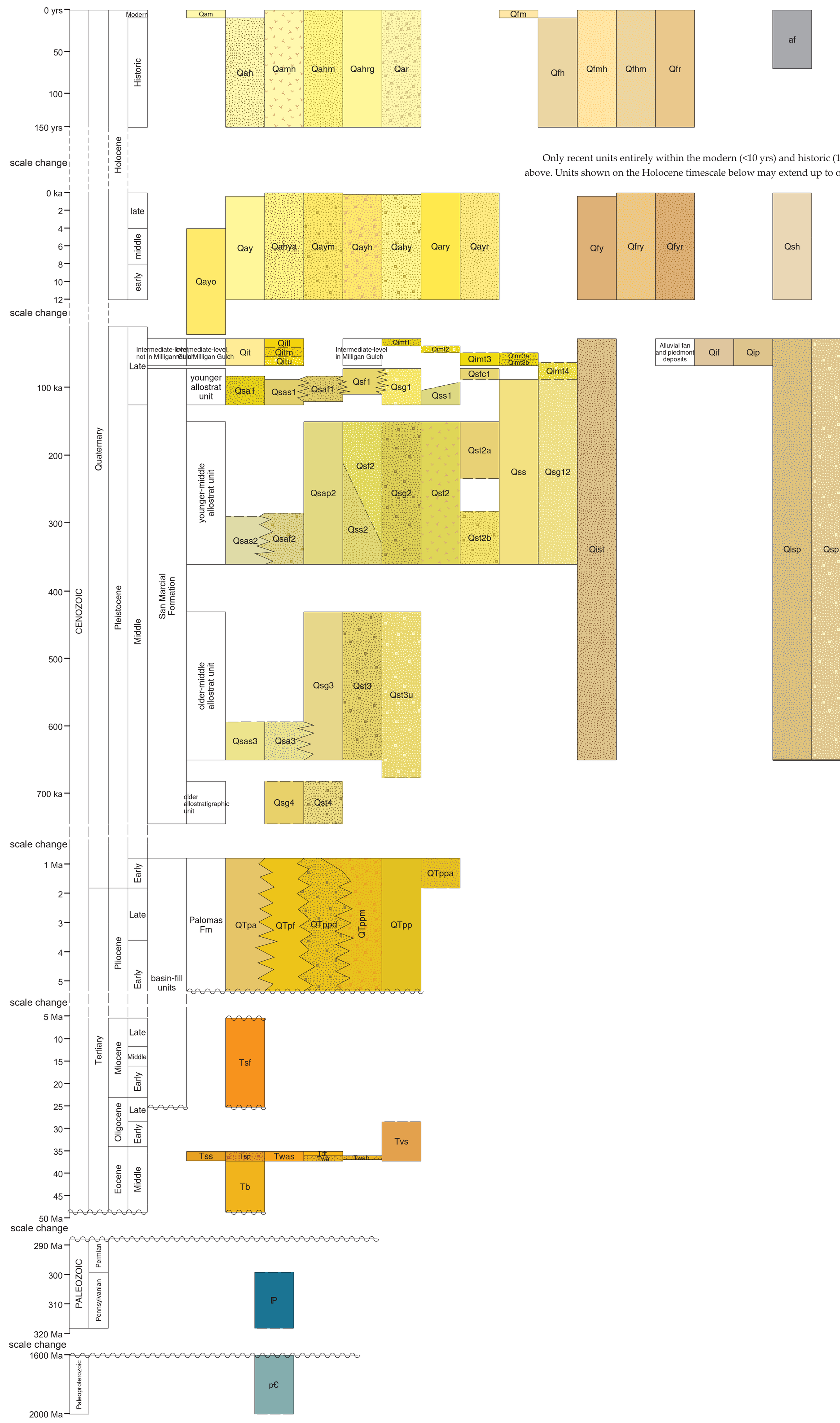
Comments to Map Users

A geologic map displays information on the distribution, nature, orientation, and age relationships of rock and deposits and the occurrence of structural features. Geologic and fault contacts are irregular surfaces that form boundaries between different types or ages of units. Data depicted on this geologic quadrangle map may be based on any of the following: reconnaissance field geologic mapping, compilation of published and unpublished work, and photogeologic interpretation. Locations of contacts are not surveyed, but are plotted by interpretation of the position of a given contact onto a topographic base map; therefore, the accuracy of contact locations depends on the scale of mapping and the interpretation of the geologist(s). 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. Topographic and cultural changes may not be shown due to recent development.

Cross sections are constructed based upon the interpretations of the author made from geologic mapping and available geophysical 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.

The New Mexico Bureau of Geology and Mineral Resources created the Open-file Geologic Map Series to expedite dissemination of these geologic maps and map data to the public as rapidly as possible while allowing for map revision as geologists continued to work in map areas. Each map sheet carries the original date of publication below the map as well as the latest revision date in the upper right corner. In most cases, the original date of publication coincides with the date of the map product delivered to the National Cooperative Geologic Mapping Program (NCGMP) as part of New Mexico's STATEMAP agreement. While maps are produced, maintained, and updated in an ArcGIS geodatabase, at the time of the STATEMAP deliverable, each map goes through cartographic production and internal review prior to uploading to the Internet. Even if additional updates are carried out on the ArcGIS map data files, citations to these maps should reflect this original publication date and the original authors listed. The views and conclusions contained in these map documents are those of the authors and should not be interpreted as

Correlation of Map Units



Only recent units entirely within the modern (<10 yrs) and historic (10–150 yrs) timescale are shown above. Units shown on the Holocene timescale below may extend up to or overlap with the recent timescale.

Explanation of Map Symbols

02.11.08 Inclined fault (1st option)—Showing dip value and direction.

06.01 Horizontal bedding

06.02 Inclined bedding—Showing strike and dip.

08.02.03 Inclined flow banding, lamination, layering, or foliation in igneous rock—Showing strike and dip.

09.003 Inclined generic (origin or type not known or not specified) lineation or linear structure (1st option)—Showing bearing and plunge.

09.017 Inclined slickenline, groove, or striation on fault surface (1st option)—Showing bearing and plunge.

09.049 Inclined aligned stretched-object lineation (1st option)—Showing bearing and plunge.

12.05 Fluvial transport direction

12.06 Sediment transport direction determined from imbrication

12.07 Sediment transport direction determined from cross-beds

01.02.01 Key bed—Identity and existence are certain. Location is accurate.

21.36 Fissures or cracks, formed in groudn by earthquake

01.01.01 Contact—Identity and existence are certain. Location is accurate.

01.01.02 Contact—Identity or existence are questionable. Location is accurate.

01.01.03 Contact—Identity and existence are certain. Location is approximate.

01.01.04 Contact—Identity or existence are questionable. Location is approximate.

01.01.07 Contact—Identity and existence are certain. Location is concealed.

01.01.17 Gradational contact—Identity and existence are certain. Location is accurate.

01.01.19 Gradational contact—Identity and existence are certain. Location is approximate.

02.01.01 Fault (generic; vertical, subvertical, or high-angle; or unknown or unspecified orientation or sense of slip)—Identity and existence are certain. Location is accurate.

02.01.02 Fault (generic; vertical, subvertical, or high-angle; or unknown or unspecified orientation or sense of slip)—Identity or existence are questionable. Location is accurate.

02.01.08 Fault (generic; vertical, subvertical, or high-angle; or unknown or unspecified orientation or sense of slip)—Identity or existence are questionable. Location is concealed.

02.02.01 Normal fault—Identity and existence are certain. Location is accurate. Ball and bar on downthrown block.

02.02.02 Normal fault—Identity and existence are questionable. Location is accurate. Ball and bar on downthrown block.

02.02.03 Normal fault—Identity and existence are certain. Location is approximate. Ball and bar on downthrown block.

02.02.07 Normal fault—Identity and existence are certain. Location is concealed. Ball and bar on downthrown block.

02.02.08 Normal fault—Identity or existence are questionable. Location is concealed. Ball and bar on downthrown block.

02.07.09 Oblique-slip fault, left-lateral offset—Identity and existence are certain. Location is accurate. Arrows show relative motion; ball and bar on downthrown block.

02.07.15 Oblique-slip fault, left-lateral offset—Identity and existence are certain. Location is concealed. Arrows show relative motion; ball and bar on downthrown block.

02.07.16 Oblique-slip fault, left-lateral offset—Identity or existence are questionable. Location is concealed. Arrows show relative motion; ball and bar on downthrown block.

02.12.05 Scarp on normal fault—Identity and existence are certain. Location is accurate. Ball and bar on downthrown block. Hachures point downscarp.

02.12.06 Scarp on normal fault—Identity or existence are questionable. Location is accurate. Ball and bar on downthrown block. Hachures point downscarp.

02.12.07 Scarp on normal fault—Identity and existence are certain. Location is approximate. Ball and bar on downthrown block. Hachures point downscarp.

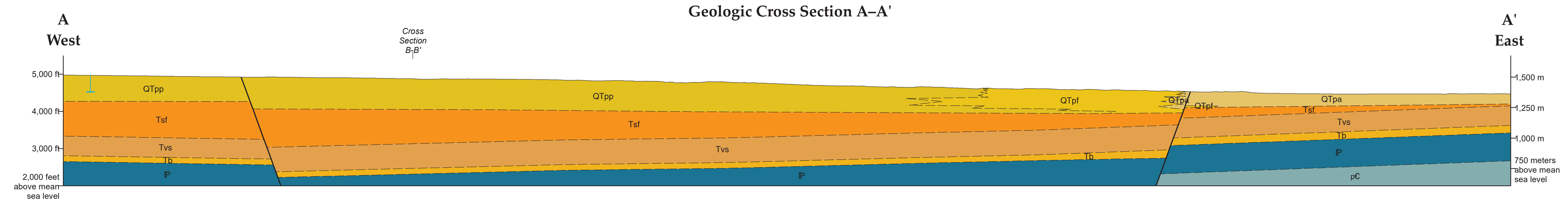
31.08 Map neatline

Relatively extensive, erosional geomorphic surface developed on teh mapped underlying deposit; results in an inset surface that is 2 m below the surface generally associated with the map unit

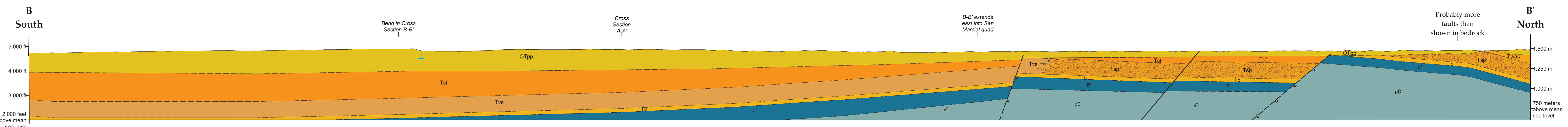
31.02.25 Well location (in cross section)—The location and depth of a well used to establish stratigraphy and geologic unit depth.

02.01.04 Fault (generic; vertical, subvertical, or high-angle; or unknown or unspecified orientation or sense of slip)—Identity or existence are questionable. Location is approximate.

Geologic Cross Section A–A'



Geologic Cross Section B–B' (Extends beyond quadrangle boundary)



Description of Map Units

Figure 1

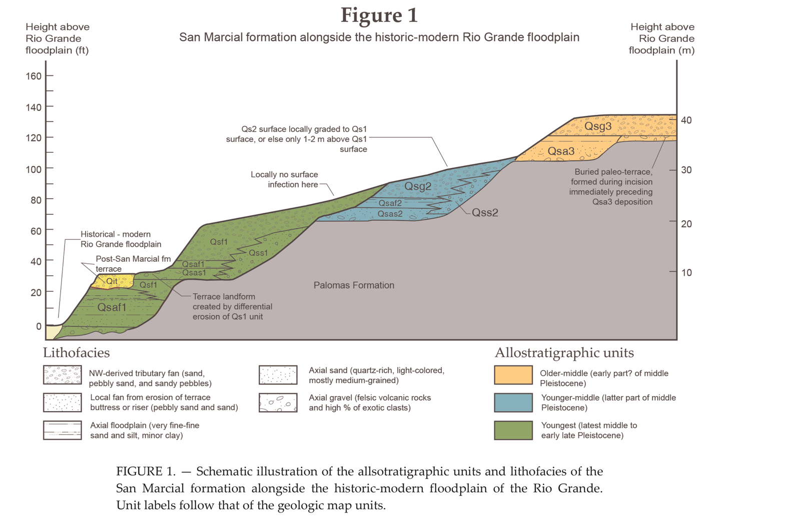


FIGURE 1. — Schematic illustration of the allostratigraphic units and lithofacies of the San Marcial formation alongside the historic-modern floodplain of the Rio Grande. Unit labels follow that of the geologic map units.