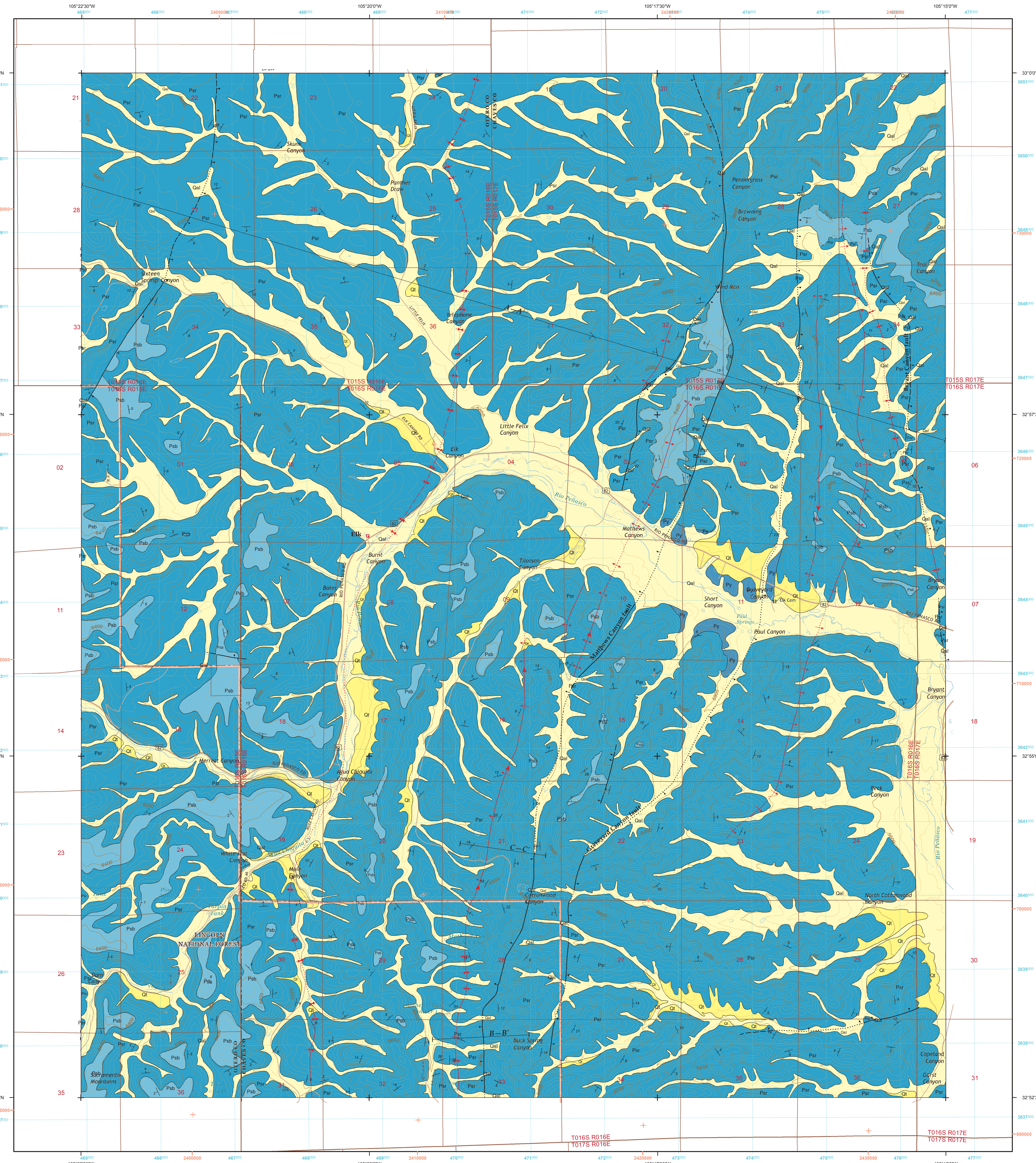


Base map from U.S. Geological Survey 2017.
North American Datum of 1927 (NAD27)
Projection and 1,000-meter grid: Universal Transverse Mercator, Zone 13S, shown in blue.
10,000-foot ticks: New Mexico Coordinate System of 1983(center zone), shown in red.

Roads....................©2006-2010 Tele Atlas
Names....................GNIS, 2008
Hydrography....................National Hydrography Dataset, 2005
Contours....................IFSAR 4.5 m Digital Terrain Model, 2008

1:25,020

1 0.5 0 1 Mile

1000 0 1000 2000 3000 4000 5000 6000 7000 Feet

1 0.5 0 1 Kilometer

Contour Interval 40 Feet

National Geodetic Vertical Datum 1929

Turkey Peak	Clements Ranch	Loco Canyon
Mayhill	Elk	Thimble Canyon
Woodson Canyon	Robertson Canyon	Dunken

Quadrangle Location

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

[575] 835-5490

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, Kelly K. Boyd, Amy L. Dunn, and Katie Sauer

New Mexico Bureau of Geology and Mineral Resources
Open-File Geologic Map 175

Mapping of this quadrangle was funded by a matching-funds grant from the STATEMAP program of the National Cooperative Geologic Mapping Act, administered by the U. S. Geological Survey and by the New Mexico Bureau of Geology and Mineral Resources, (Dr, Nelia W. Dunbar, *Director and State Geologist*, Dr. J. Michael Timmons, *Assoc. Director for Mapping Programs*).

Geologic Map of the Elk 7.5-Minute Quadrangle, Chaves and Otero Counties, New Mexico

May, 2009

by
Kate Zeigler

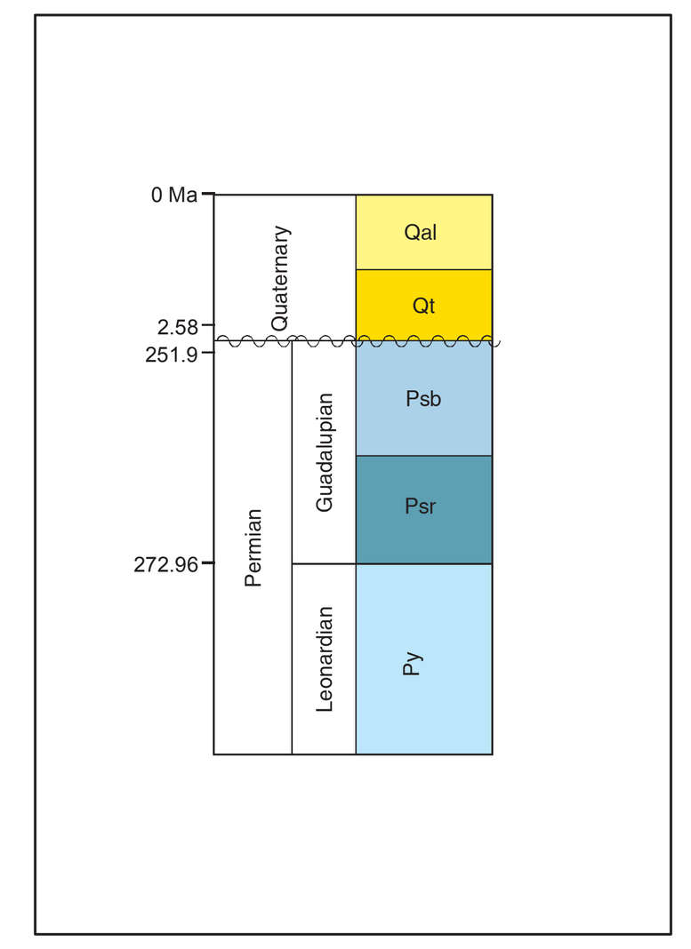
Zeigler Geologic Consulting, Albuquerque, New Mexico, 87123

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 necessarily representing the official policies, either expressed or implied, of the State of New Mexico, or the U.S. Government.



Description of Map

<all other values>

01-00-00-00-

01-01-00-00-00—Unit—Qal—Young Alluvium—Cobbles and Pebbles of limestone in modern fluvial channels, incised into surrounding strata.

01-02-00-00-00—Unit—Qt—Terrace Deposits—Flat topped, thick deposits of pebbles and cobbles. Up to 4-5m thick.

02-00-00-00-

02-01-00-00-00—Unit—Psb—Bonney Canyon Member, San Andres Formation—Thin to medium bedded tan dolomite. Common chert that is white, yellow, red, orange, and purple in color.

02-02-00-00-00—Unit—Psr—Rio Bonito Member, San Andres Formation—Medium to occasionally thick bedded dark gray micrite to wackestone, with packstone occurring in upper third. 0.5m thick tongue of Hondo Sandstone occurs rarely: gold, medium grained, well sorted, well rounded quartz arenite.

02-03-00-00-00—Unit—Py—Yeso Formation—Bright yellow and red mudstone interbedded with thin pale brown dolomite beds and medium beds of sandstone (massive to thin bedded).

Explanation of Map Symbols

ContactsAndFaults

RefNo_Desc

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

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

01.01.05 Contact—Identity and existence are certain. Location is inferred.

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.

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

02.02.04 Normal fault—Identity or existence are questionable. 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.

31.08 Map neatline

GeologicLines

RefNo_Desc

05.01.01 Anticline (1st option)—Identity and existence are certain. Location is accurate.

05.01.03 Anticline (1st option)—Identity and existence are certain. Location is approximate.

05.01.07 Anticline (1st option)—Identity and existence are certain. Location is concealed.

05.05.01 Syncline (1st option)—Identity and existence are certain. Location is accurate.

05.05.03 Syncline (1st option)—Identity and existence are certain. Location is approximate.

05.05.07 Syncline (1st option)—Identity and existence are certain. Location is concealed.

05.06.01 Synform (1st option)—Identity and existence are certain. Location is accurate.

05.06.03 Synform (1st option)—Identity and existence are certain. Location is approximate.

05.06.07 Synform (1st option)—Identity and existence are certain. Location is concealed.

05.09.01 Monocline (1st option)—Identity and existence are certain. Location is accurate. Arrow shows direction of dip.

05.09.03 Monocline (1st option)—Identity and existence are certain. Location is approximate. Arrow shows direction of dip.

05.09.07 Monocline (1st option)—Identity and existence are certain. Location is concealed. Arrow shows direction of dip.

OrientationPoints_old

Symbol

05.10.05

06.02

06.03

RefNo_Desc

31.10 Cross section line and label