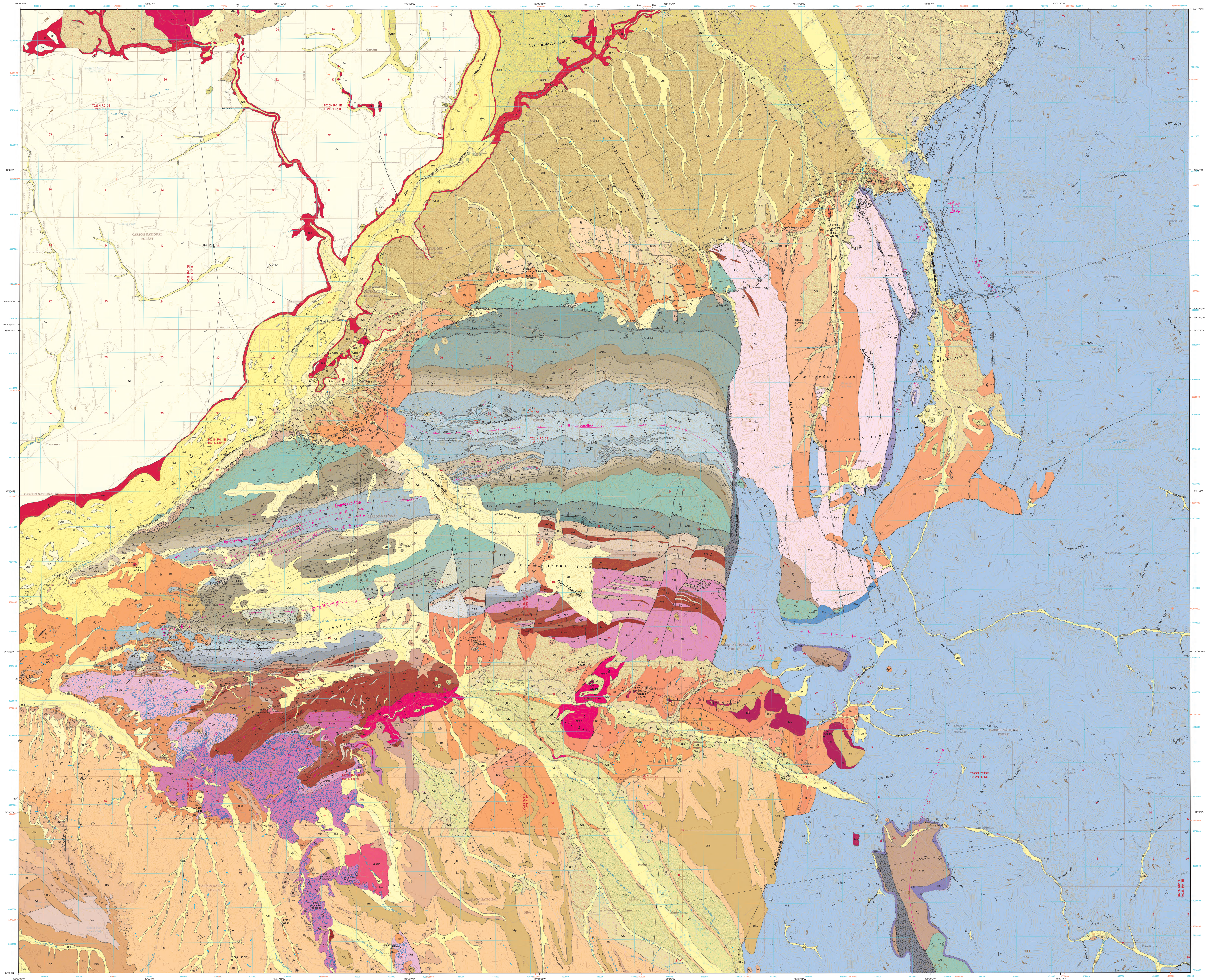
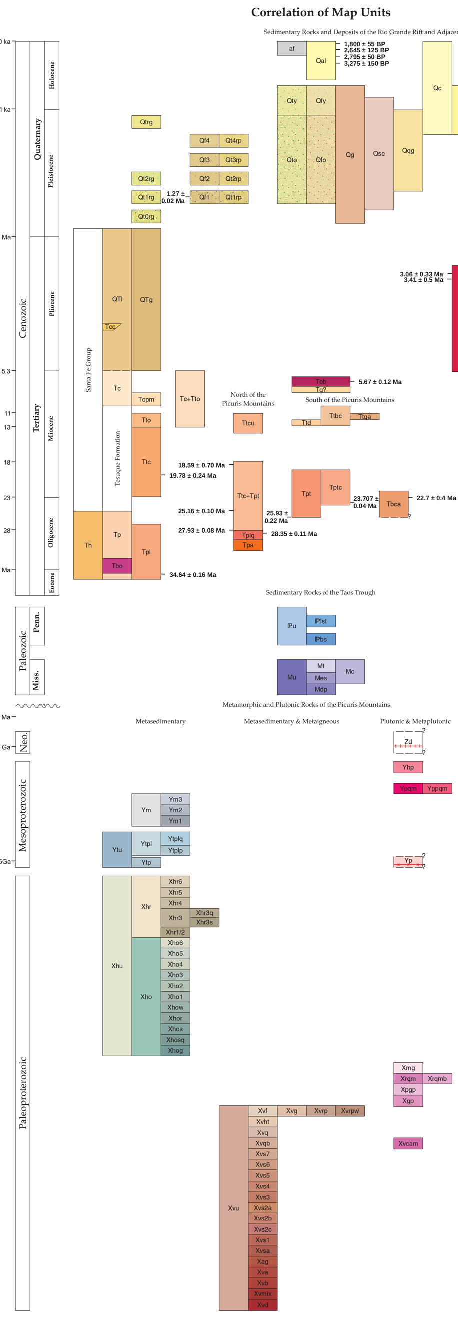


Correlation of Map Units



Explanation of Map

Description of Map

05-02-05-00-00—unit01—Xmg—Miranda granite—Exposed east of the Picuris-Pecos fault only; typically consists of pink to white, medium-grained, mica-rich, granitic rock with euhedral megacrysts of feldspar; these granitic rocks are everywhere weathered looking, fairly equigranular, and commonly crumbly; appears to intrude the Rio Pueblo Schist (Xvrp) along its southern contact; pegmatites are locally voluminous; contains at least one tectonic foliation; three closely spaced, orthogonal joint sets cause this rock to weather into small, angular blocks; age unknown, but it is similar in occurrence and texture to the ca. 1.6 Ga Tres Piedras Granite of the east-central Tusas Mountains to the northwest of the map area.

05-02-06-00-00—unit01—Xrqm—Rana quartz monzonite—Medium-grained, biotite quartz monzonite to granodiorite; composed of quartz, plagioclase, microcline, and lesser amounts of biotite and magnetite-hematite; accessory minerals are sphene, allanite, zircon, apatite, and epidote; plagioclase is extensively altered to sericite, epidote, and clinozoisite; generally well-foliated rock with local areas of weak foliation and zones of ductile shearing; foliation is generally parallel to the dominant foliation in the country rock; contact with the Puntiagudo granite porphyry (Xpgp) is a ductile shear zone; contains a discontinuous, fine-grained border zone of leucocratic muscovite granite; in general, strongly discordant with compositional layering in the

05-03-03-03-08—unit01—Xhow—Massive white quartzite of the Ortega Formation, Hondo Group—Massive, white to light-gray, vitreous quartzite with dark layers of rutile, hematite, and ilmenite that define cross-bedding; fine muscovite is commonly present on quartz grain boundaries, and kyanite commonly is associated with the dark layers; northeast of the Pilar-Vadito fault, most of the Ortega Formation consists of this unit plus the underlying reddish quartzite (Xhor).

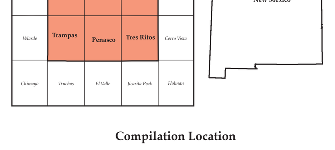
05-03-03-03-09—unit01—Xhor—Reddish quartzite of the Ortega Formation, Hondo Group—Reddish, coarse-grained quartzite; probably equivalent to some of the Xho2/Xho3 section southwest of the Pilar-Vadito fault; generally sharp contact with Xhow.

05-03-03-03-10—unit01—Xhos—Quartz-mica schist of the Ortega Formation, Hondo Group—White to pink, quartz-muscovite schist with quartz eyes; typically contains kyanite and andalusite; this unit has mineralogy and textures that are transitional between the Vadito Group feldspathic schist (Xvf) and the Hondo Group (Xhu) quartzites.

05-03-03-03-11—unit01—Xhosq—Schistose quartzite of the Ortega Formation, Hondo Group—Thin horizon of white, muscovite-rich, well-bedded quartzite located

Base map from U.S. Geological Survey 2020.
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, 2016
Roads within US Forest Service Lands.......FSTopo Data with limited Forest Service updates, 2013–2016
Names.......GNIS, 1980–2019
Hydrography.......National Hydrography Dataset, 2004–2019
Contours.......IFSAR 4.5 m Digital Terrain Model, 2008
Wetlands.......FWS National Wetlands Inventory, 2002–2020
Public Land Survey System.......BLM, 2019



Compilation Location

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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

Magnetic Declination
Nov 2020
7° 51' East
At Map Center

1:24,000

Contour Interval 50 Feet

North American Vertical Datum of 1988

New Mexico Bureau of Geology and Mineral Resources
Open-File Geologic Map 294

The compilation of these six quadrangles was funded by a matching-funds grant from the STATEMAP program of the National Cooperative Geologic Mapping Act (Fund Number: G20AC00250), 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 Picuris Mountains, Rio Arriba and Taos County, New Mexico

November 2021

by
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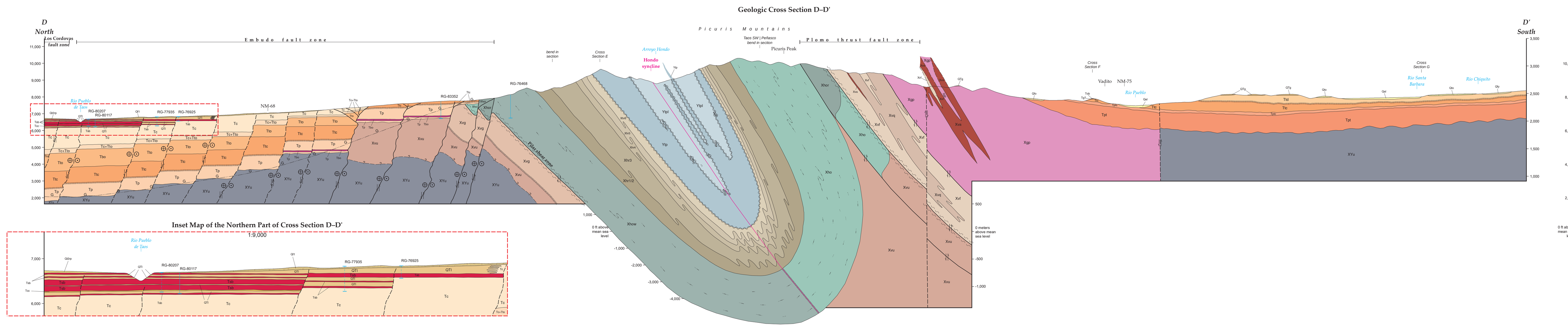
Comments to Map Users

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, the 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 (drill hole) 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 the 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.

Geologic Cross Section D–D'



Inset Map of the Northern Part of Cross Section D–D'

Geologic Cross Section E–E'