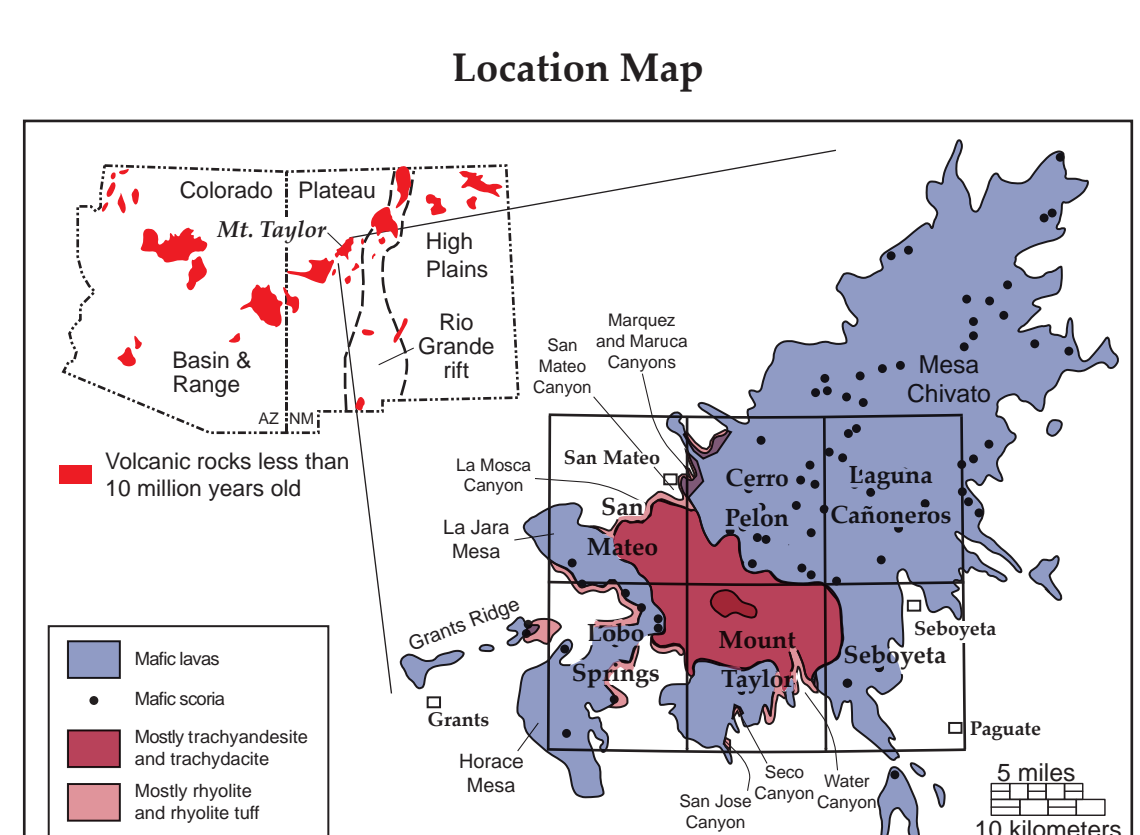




Figure 1—The Geologic Map of the Mount Taylor Volcano Area, New Mexico, results from the compilation of the revision and synthesis of six Open File Geologic Maps (OFGM) quadrangles shown above (see references, figure adapted from Fryxell et al., 1990).

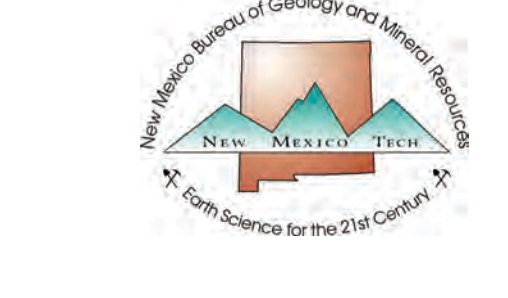


### Geologic Map of the Mount Taylor Volcano Area, New Mexico

2019

Fraser Goff<sup>1</sup>, Shari A. Kelley<sup>2</sup>, Cathy J. Goff<sup>3</sup>, David J. McCraw<sup>4</sup>, G. Robert Osburn<sup>1</sup>, John R. Lawrence<sup>5</sup>, Paul G. Drakos<sup>6</sup>, and Steven J. Skotnicki<sup>7</sup>

<sup>1</sup>Department of Earth and Environmental Science, New Mexico Tech, 801 Leroy Place, Socorro, NM 87801  
<sup>2</sup>New Mexico Bureau of Geology and Mineral Resources, 801 Leroy Place, Socorro, NM 87801  
<sup>3</sup>Independent Consultant, 5522 Quincewood, Los Alamos, NM 87545  
<sup>4</sup>Earth and Planetary Science, Washington University, J. Brothers Dr., St. Louis, MO 63130  
<sup>5</sup>Lawrence Geosciences, LLC, 2322 Elizabeth St., NE, Albuquerque, NM 87112  
<sup>6</sup>Clinton Geoscience Inc., P.O. Box 3727, Santa Fe, NM 87506  
<sup>7</sup>Independent Consultant, 281 W. Annona Dr., Gilbert, AZ 85233



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**Explanation of Map Units**

Location of geologic cross sections: A-A', B-B', C-C', D-D', E-E', F-F', G-G', H-H', I-I', J-J', K-K', L-L', M-M', N-N', O-O', P-P', Q-Q', R-R', S-S', T-T', U-U', V-V', W-W', X-X', Y-Y', Z-Z'

**Geologic Fabrics and Features**

- Direction of lava flow
- Horizontal bedding
- Strike and dip of inclined bedding
- Strike and dip of vertical joint
- Strike and dip of inclined joint
- Strike and dip of inclined foliation
- Strike and dip of inclined volcanic foliation
- Cold spring
- Small volcanic cone or vent
- Large volcanic cone or vent
- Locality of "Aa" flow geochronologic sample with roughland date

**Structural Contacts**

- Normal fault—Identity and existence are certain unless queried. Location is accurate where solid, approximate where dashed, and concealed where dotted. Linearly in series of dip.
- Reverse fault—Identity and existence are certain. Location is accurate where solid, approximate where dashed, and concealed where dotted. Arrows on the downthrown block. Arrows on fault show the dip of the fault plane.
- Anticline, location approximate. Minimum location approximate, small arrows show direction of dip, large arrows (if present) show direction of plunge.

**Mining and Economic Resources**

- Prospect (big or small circle)
- Open pit, quarry, or glory hole
- Uranium exploration well
- Oil and gas exploration well
- Water well for industrial use

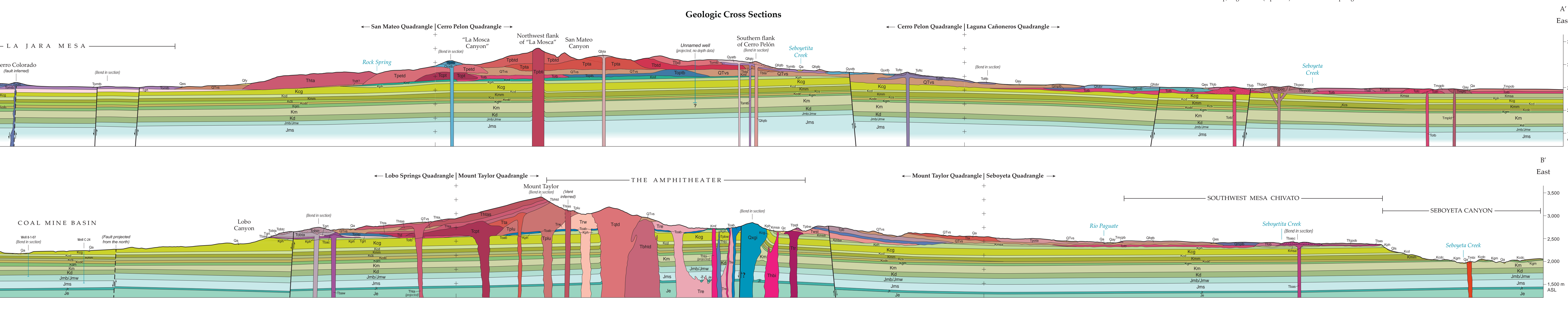


Figure 2—Oblique view looking northwest to Mount Taylor (3,445 m, 11,301 ft) and southwest Mesa Chivato to the right, showing geology superimposed on elevation. Note clustering of 3.2–2.5 Ma intermediate to silicic domes and flows in the summit area (crimson rocks to purple) and the large, eastward-dipping, Elia-Balscones fan of volcanic debris (brown) formed by erosion of material from the summit amphitheater and shed to the east-southeast. Younger, 2.5–1.26 Ma mafic rocks (lava flows) (mostly blue, gray, blue, and yellow) drape the flanks of the volcano. The 36-Ma Cerro Chivato (crimson red dome in the northwest) is part of an older volcanic center in southwestern Mesa Chivato now largely buried by younger, 18–2.5 Ma basaltic lavas. Crystalline rocks (green and yellow-green) which underlie the volcanic pile, are well exposed in canyons draining south, as well as in the San Mateo area in the northwest.

**Comments to Map Users**

A geologic map displays information on the distribution, nature, orientation, and age relationships of rocks 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. 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. This map represents the compilation of the revision and synthesis of six specific New Mexico Bureau of Geology and Mineral Resources (NMGMRO) Open-File Geologic Maps (OFGM) depicted in the location map above. All map data are based upon reconnaissance field geologic mapping, a compilation of published and unpublished work, and photographic interpretation of the individual quadrangles, as well as those later derived from this regional perspective; other further site-specifically verified. Any enlargement of this map could cause misreading 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 for the sole source of information for use in locating or designing wells, buildings, roads, or other human-made structures.

The views and conclusions contained on this map 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.