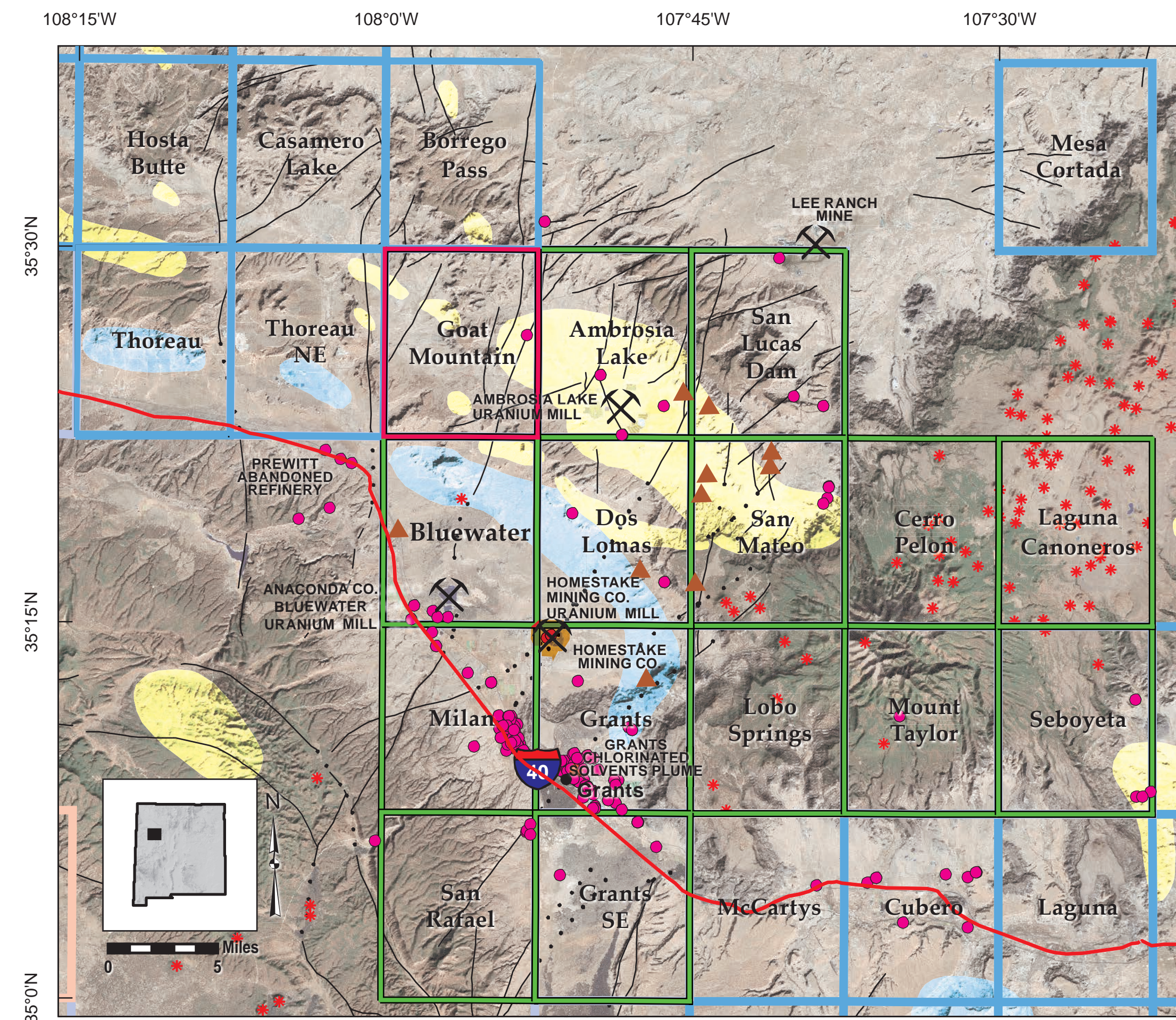
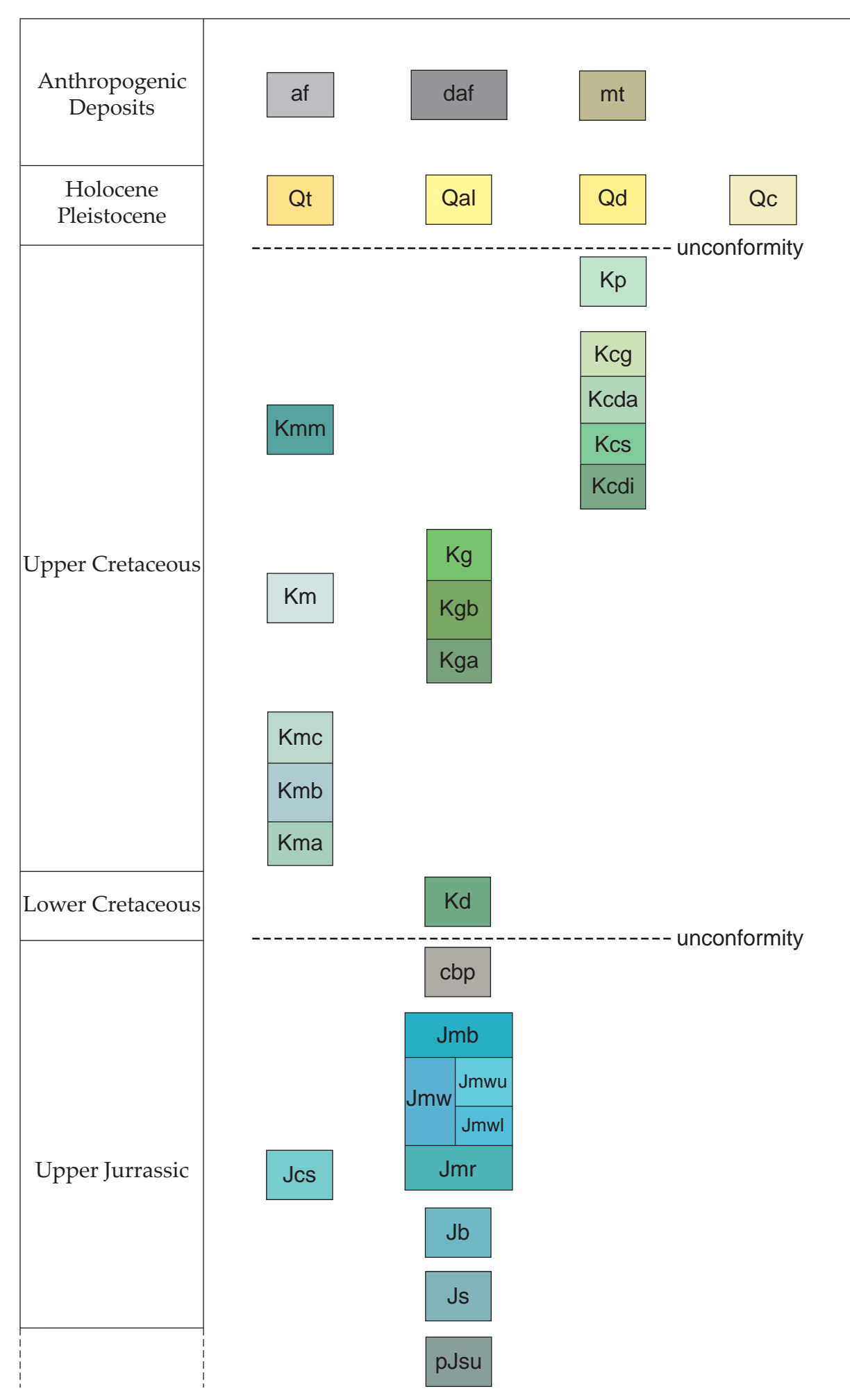


- Quaternary**
- Anthropogenic Deposits**
 - af Artificial fill for roads and cattle tanks
 - daf Artificial fill and or disturbed land
 - mt Mounds of reclaimed mine tailings
 - Holocene and Pleistocene**
 - Qt Talus and landslide blocks
 - Qal Alluvial deposits, undivided
 - Qd Eolian sand in small dunes and sheets
 - Qc Upland deposits and colluvium

Unit Descriptions

- MESOZOIC ERATHEM**
- Cretaceous Rocks**
- Kp Point Lookout Sandstone**—Light gray and reddish-brown medium- to fine-grained Sandstone. Divisible into two parts where Satan Tongue of Mancos shale is present. 250 feet (76 m) thick.
 - Kcg Crevasse Canyon Formation**
 - Kcda Gibson Coal Member**—Interbedded sandstone, siltstone, shale, and coal beds. 200 feet (60 m) thick.
 - Kcs Dalton Sandstone Member**—Light gray medium- and fine-grained sandstone. 60–150 feet (45 m) thick.
 - Kcdl Stray sandstone of local usage**—Gray fine- medium- and coarse-grained fossiliferous sandstone, and conglomerate. 40–120 feet (12–36 m) thick.
 - Kcdm Dilco coal member**—Interbedded sandstone, siltstone, shale, and coal beds. 100–150 feet (30–45 m) thick.
 - Kg Gallup Sandstone**
 - Kgb Main body of Gallup Sandstone**—Pale reddish-brown and light gray fine- and medium-grained sandstone. 0–120 feet (0–36 m) thick.
 - Kga Lower part of Gallup Sandstone**—Gray fossiliferous fine- and very coarse-grained sandstone, 20–80 feet (6 to 24 m), and 0–50 feet (0–15 m) thick, respectively.
 - Kmm Mancos Shale**
 - Km Mullatto tongue of Mancos Shale**—Pale yellowish-brown sandy shale, dark gray shale, and massive pale yellowish-brown fine-grained silty sandstone. Occurs between Kda and Kcs or, where Kcs is missing, between Kda and Kcdl of Crevasse Canyon Formation. 220 feet (67 m) thick.
 - Kmc Main body of Mancos Shale**—Dark gray, friable silty shale with minor, thin, light-brown sandstone and gray fissile shale. Occurs below Kg and below Kgb and Kga of Gallup Sandstone. Main portion approximately 600 feet (183 m) thick; portion above Kga 50–100 feet (15–30 m) thick; portion above Kgb 20–80 feet (6–24 m) thick.
 - Kmb Lower part of Mancos Shale**—Gray shale, overlain by pale yellowish-brown to pale yellowish-gray fine- and medium-grained sandstone. 115, 90, and 40–80 feet (35, 27, and 12–24 m) thick, respectively.
 - Kma Dakota Sandstone**—Pale yellowish-brown, orange, and white fine- and medium-grained sandstone 60–100 feet (18–30 m) thick.
- Jurassic Rocks**
- cbp Collapse/breccia pipes (Jurassic?)**
 - Morrison Formation**
 - Jmb Brushy Basin Member**—Mainly grayish-green mudstone with minor lenticular light gray and yellowish-gray fine- and medium-grained sandstone. 60–110 feet (18–33.5 m) thick.
 - Jmw Westwater Canyon Member**—Mainly light gray, yellowish-, and reddish-gray, fine- and medium-grained sandstone. Minor light greenish-gray lenticular mudstone. 100–120 feet (30–36.5 m) thick.
 - Jmwu Upper part of Poison Canyon sandstone of economic usage**—Separated from main part (Jmwl) by a thick mudstone tongue. Mudstone tongue is mapped as Jmwu. 0–80 feet (0–24 m) thick.
 - Jmwl Lower part of Poison Canyon sandstone**—Where thick mudstone tongue splits off Poison Canyon sandstone. 80–100 feet (24–30 m) thick.
 - Jmr Recapture Member**—Grayish-red and greenish-gray mudstone siltstone and sandstone. 90–120 feet (27–36.5 m) thick.
 - Jos Cow Springs Sandstone**—Very light gray fine- and medium-grained sandstone. Interfingers with lower part of Jmr. 0–120 feet (0–36.5 m) thick.
 - Jb Bluff Sandstone**—Grayish-yellow, pale orange, and pale reddish-brown fine- and medium-grained sandstone. 90–100 feet (27–30 m) thick.
 - Js Summerville Formation**—Interbedded variegated mudstone, siltstone, and fine- to very fine-grained sandstone. 190–266 feet (60–81 m) thick in the Ambrosia Lake quadrangle.
 - Pre-Jurassic**
 - pjsu Rocks beneath Summerville Formation, undivided**—Cross-section only.

CORRELATION DIAGRAM

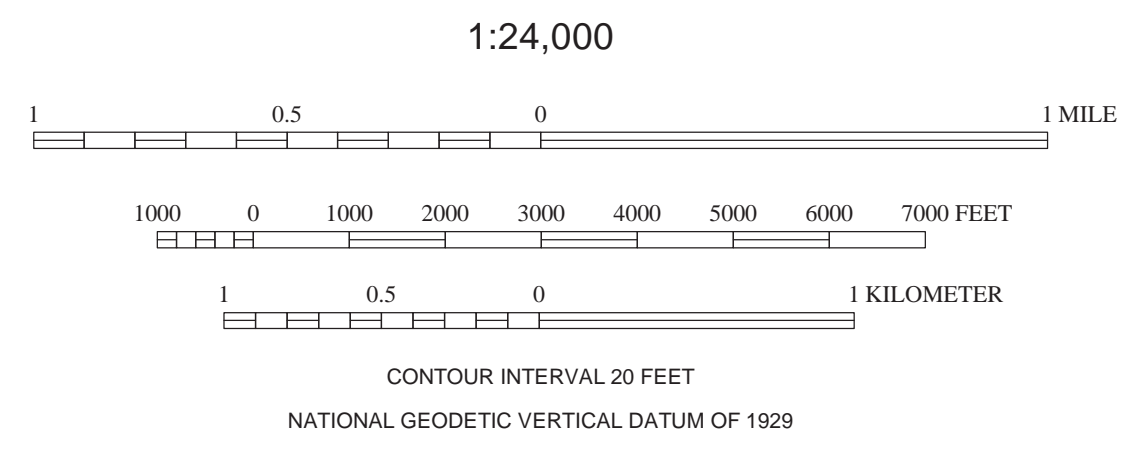


Explanation of Symbols

- Active Mines & Mills
- National Priority List Superfund Site
- Other Superfund Sites Related to Mining/Industry
- Active and Requested Mine Permits
- Uranium Deposits**
 - Sandstone host rock
 - Limestone host rock
- Geologic Mapping Index**
 - USGS Mapping
 - Completed STATEMap Mapping
 - Goat Mountain quadrangle

FIGURE 1— Regional view of USGS and StateMap mapping projects for the Mount Taylor area, northwest New Mexico. Goat Mountain quadrangle highlighted in red.

Base map from U.S. Geological Survey 1970, from photographs taken 1965, field checked in 1970, edited in 1993.
1927 North American datum, UTM projection—zone 10N
1000-meter Universal Transverse Mercator grid, zone 13, shown in blue



New Mexico Bureau of Geology and Mineral Resources
Open-file Geologic Map 240

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, U. Green Price, Director and State Geologist, Dr. J. Michael Timmons, Assoc. Director for Mapping Programs.

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 associated with recent development may not be shown.

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 map has not been reviewed according to New Mexico Bureau of Geology and Mineral Resources standards. The contents of the report and map should not be considered final and complete until reviewed and published by the New Mexico Bureau of Geology and Mineral Resources. The views and conclusions contained in this document 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.

Map Symbols

- Location of geologic cross section
- Geologic contact, solid where exposed, dashed where approximately located
- Strike and dip of bedding
- Strike and dip of fault plane
- Fault, solid where certain, dashed where approximately located, dotted where buried, queried where location or termination is uncertain. U and D indicate sense of throw. Number indicates vertical displacement in feet.

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**Geologic map of the Goat Mountain quadrangle,
McKinley County, New Mexico.**

June 2013
by
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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>

