U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

Base from U.S. Geological Survey, 1954
Photorevised 1967 and 1973
Polyconic projection
North American Datum of 1927; 10,000-foot grid based on New Mexico coordinate system, central zone
1,000-meter grid ticks, zone 13
Shaded relief base from U.S. Geological Survey National Elevation Dataset (NED) 30-meter elevation resolution elevation data for the La Mesita Negra SE 7.5-minute quadrangle

APPROXIMATE MEAN DECLINATION, 1996

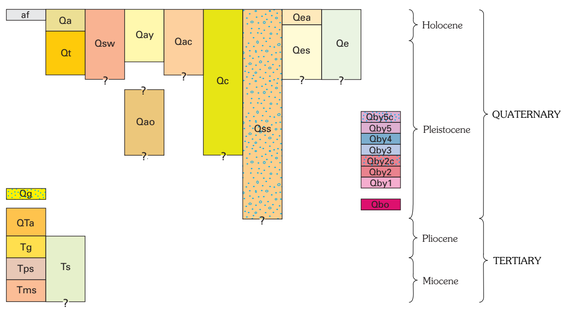
SCALE 1:24 000

CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

QUADRANGLE LOCATION

Geology mapped in 1996-99 (See pamphlet for geologic mapping credit)
Geologic map database by Theodore R. Brandt
Digital map layout by William Sowers
Preparation of GIS files for map layout by Nancy Shock
Edited by F. Craig Brunstein
Manuscript approved for publication January 3, 2003

CORRELATION OF MAP UNITS



LIST OF MAP UNITS

[See accompanying pamphlet for detailed descriptions of map units, discussion of mapping methods and stratigraphy of drill-hole data, and references cited. Gray shading in left part of color boxes shows map unit colors with shaded relief]

SURFICIAL DEPOSITS

Artificial-Fill Deposits

af — **Artificial fill (latest Holocene)**

Alluvial Deposits

Qa — **Alluvium in stream channels and beneath treads of low terraces (Holocene)**
Qt — **Terrace alluvium (Holocene and late Pleistocene)**
Qsw — **Sheetwash deposits (Holocene and late? Pleistocene)**
Qsw/Qby2 — **Sheetwash deposits over lava flow unit 2**
Qsw/Qby1 — **Sheetwash deposits over lava flow unit 1**
Qg — **Gravelly alluvium (middle Pleistocene)**
QTa — **Old alluvium and calcic soils of the Llano de Albuquerque (early? Pleistocene and Pliocene)**

Alluvial and Colluvial Deposits

Qay — **Young alluvial-slope deposits (Holocene and late Pleistocene)**
Qac — **Alluvium and colluvium, undivided (Holocene and late? Pleistocene)**
Qao — **Old alluvial-slope deposits (late? and middle? Pleistocene)**

Colluvial Deposits

Qc — **Colluvial deposits, undivided (Holocene to middle? Pleistocene)**

Alluvial and Eolian Deposits

Qss — **Sheetwash deposits, eolian sand, calcic soils, and minor stream alluvium associated with fault scarps (late and middle? Pleistocene)**

Eolian Deposits

Qea — **Active eolian sand (Holocene)**

Eolian and Alluvial Deposits

Qe — **Active and inactive eolian sand and sheetwash deposits, undivided (Holocene and late? Pleistocene)**
Qes — **Inactive eolian sand and sheetwash deposits, undivided (Holocene and late? Pleistocene)**
Qes/Qta — **Inactive eolian sand and sheetwash deposits over old alluvium and calcic soils of the Llano de Albuquerque (Holocene to Pliocene)**

LAVA FLOWS AND RELATED DEPOSITS OF ALBUQUERQUE VOLCANOES

Young lava flows and related deposits (middle Pleistocene)

Qby5c — **Cinder deposits on lava flow unit 5**
Qby5 — **Lava flow unit 5**
Qby4 — **Lava flow unit 4**
Qby3 — **Lava flow unit 3**
Qby2c — **Cinder deposits on lava flow unit 2**
Qby2 — **Lava flow unit 2**
Qby1 — **Lava flow unit 1**
Qbo — **Old lava flows (middle Pleistocene)**

UPPER SANTA FE GROUP SEDIMENTS

Tg — **Gravel unit of the upper Santa Fe Group sediments (Pliocene)**
Tps — **Pebbly sand unit of the upper Santa Fe Group sediments (upper Miocene)**
Tms — **Mud and sand unit of the upper Santa Fe Group sediments (upper Miocene)**
Ts — **Upper Santa Fe Group sediments, undivided (Pliocene and upper Miocene)**

Contact—Located with certainty. Contacts for surficial units Qsw, Qes, Qea, and Qe are approximately located

Normal faults—Dashed where approximately located; dotted or dotted-and-dashed where concealed; bar and ball on apparent relative downthrown side, where known. Some concealed faults (dotted) are based chiefly on their topographic and geomorphic expression. Other concealed faults (dotted or dotted-and-dashed) are based in part or chiefly on interpretation of high-resolution aeromagnetic data (Grauch, 1999; U.S. Geological Survey and SIAL, Ltd., 1997). The latter faults are labeled "AM." The sense of motion indicated on some of the faults labeled "AM" is based on their subtle topographic and (or) geomorphic expression. Dip symbol and number indicate dip of fault plane

Strike and dip of bedding

Inclined

Horizontal

Extent of abundant dunes and blowouts—Delineates the approximate boundary of a 14 km^2 area within unit Qes, in the southwestern part of the map area, characterized by abundant dunes and blowouts

Dry hole drilled for hydrocarbons—Approximately located; showing the lease name, hole number, and total depth (TD) in feet

Hole drilled for water resource evaluation—Approximately located; showing name of well, well number, and total depth (TD) in feet

Approximate location of trench—Trench excavated across the westernmost fault near the southwest corner of the map area revealed that the soil K horizon formed in the top of unit QTa is displaced one meter down to the east (John W. Hawley, oral commun., 2003). Along this same fault, about 900 m south of the trench, the top of unit Tps is displaced 7 m down to the east

CONVERSION FACTORS

Multiply	By	To obtain
centimeters (cm)	0.3937	inches (in.)
meters (m)	3.281	feet (ft)
kilometers (km)	0.6214	miles (mi)

MAP SHOWING GEOLOGY ON TOPOGRAPHIC AND SHADED RELIEF BASE

GEOLOGIC MAP OF THE LA MESITA NEGRA SE QUADRANGLE, BERNALILLO COUNTY, NEW MEXICO

By
Ralph R. Shroba, Ren A. Thompson, Dwight L. Schmidt, Stephen F. Personius,
Florian Maldonado, and Theodore R. Brandt

2003

Any use of trade names in this publication is for descriptive purposes only and does not imply endorsement by the U.S. Geological Survey

For sale by U.S. Geological Survey Information Services
Box 25286, Federal Center, Denver, CO 80225

This map was produced on request, directly from digital files, on an electronic plotter. It is also available as a PDF file at http://pubs.usgs.gov/mf/2003/mf-2416/