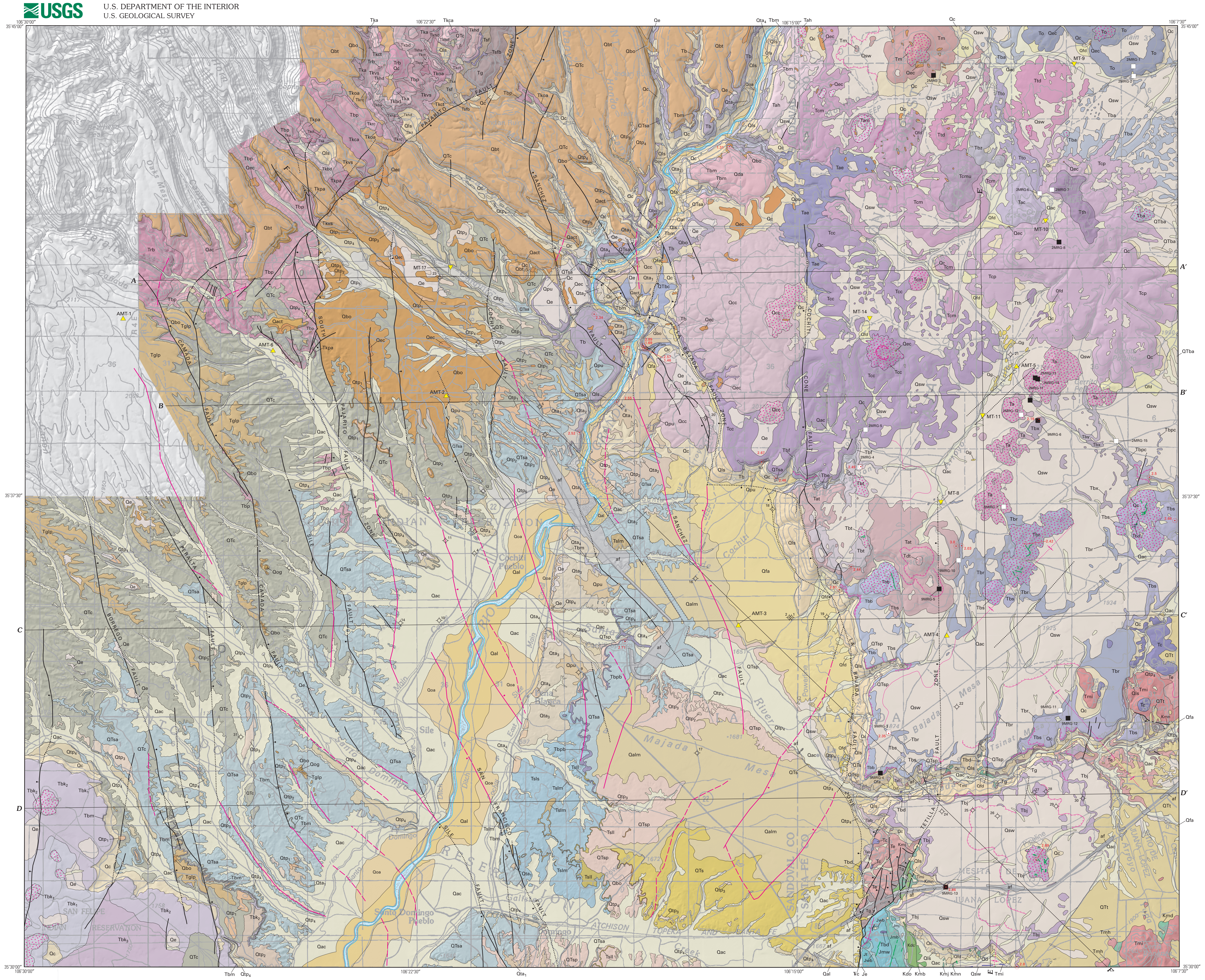
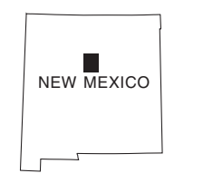
U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

PROFESSIONAL PAPER 1720
PLATE 2
Including shaded-relief base map



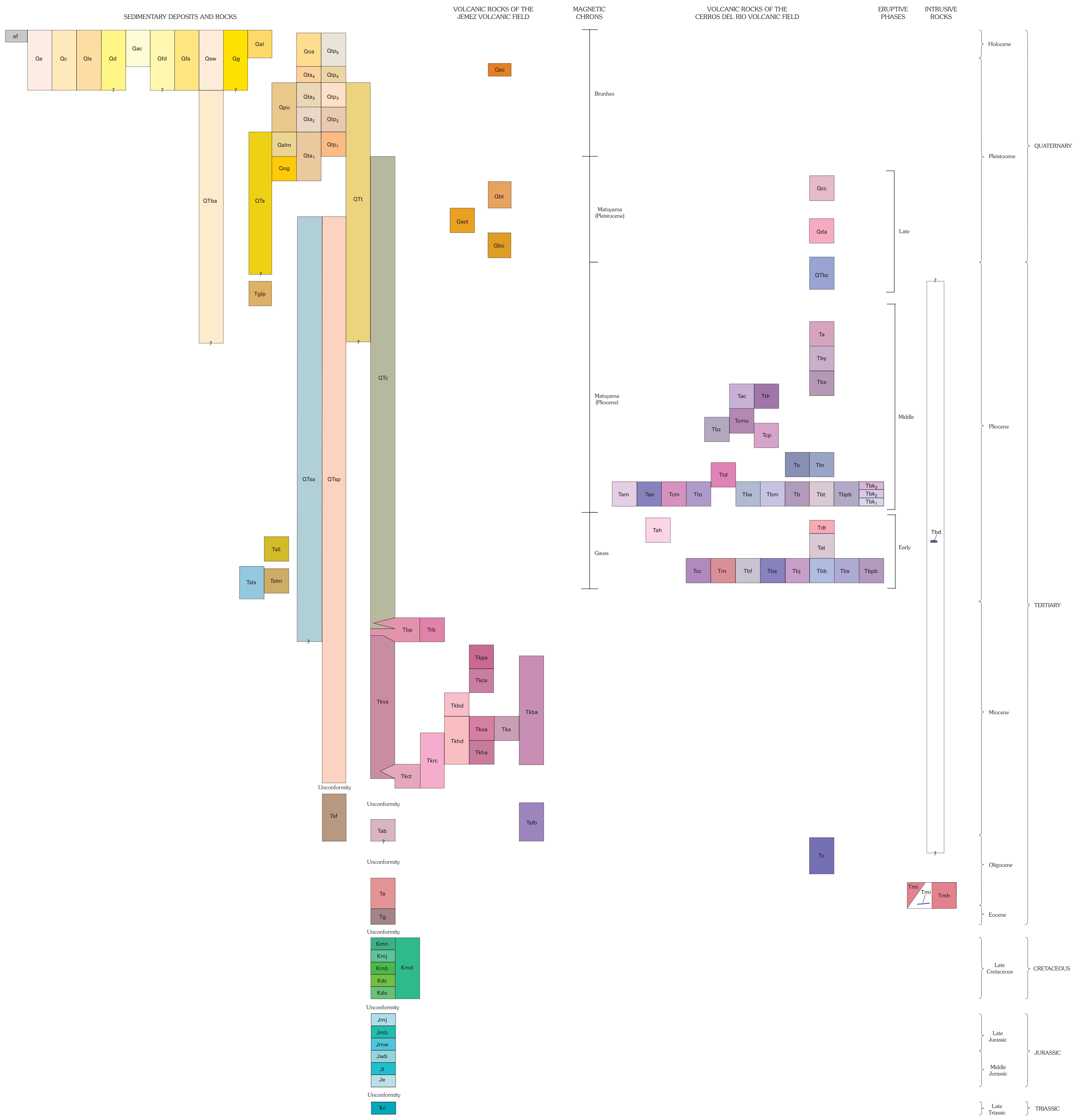
Base from U.S. Geological Survey
Los Alamos, 1:100,000, 1978
Universal Transverse Mercator
Shaded-relief image derived from
U.S. Geological Survey National
Elevation Dataset (NED), 10-m resolution
elevation data, 1999

SCALE 1:50 000
1 1/2 0 1 2 3 4 MILES
1 .5 0 1 2 3 4 5 KILOMETERS
CONTOUR INTERVAL 50 METERS
NATIONAL GEODETIC VERTICAL DATUM OF 1929



MAP LOCATION

CORRELATION OF MAP UNITS



LIST OF MAP UNITS

af	Artificial fill (latest Holocene)
Qe	Eolian sand and silt (Holocene to middle Pleistocene)
Qc	Colluvium (Holocene to middle Pleistocene)
Qls	Landslide deposits (Holocene to middle Pleistocene)
Qd	Debris-flow deposits (Holocene to middle(?) Pleistocene)
Qac	Alluvium and colluvium, undivided (Holocene and late Pleistocene)
Qfd	Fan alluvium and debris-flow deposits (Holocene to middle(?) Pleistocene)
Qfa	Gravelly alluvial-fan deposits (Holocene to middle Pleistocene)
Qsw	Sandy sheetwash deposits (Holocene to middle Pleistocene)
Qg	Gravelly alluvium (Holocene to middle(?) Pleistocene)
Qal	Channel and floodplain deposits of the Rio Grande (Holocene)
Qoa	Older alluvial deposits of the Rio Grande (Holocene and late Pleistocene)
	Piedmont terrace alluvium
Qtp_5	Youngest alluvium (Holocene and late Pleistocene)
Qtp_4	Young alluvium (late Pleistocene)
Qtp_3	Intermediate alluvium (middle Pleistocene)
Qtp_2	Old alluvium (middle Pleistocene)
Qtp_1	Oldest alluvium (middle Pleistocene)
	Alluvial terrace deposits of the Rio Grande
Qta_4	Young deposits (late Pleistocene)
Qta_3	Intermediate deposits (middle Pleistocene)
Qta_2	Old deposits (middle Pleistocene)
Qta_1	Oldest deposits (middle to early Pleistocene)
Qec	El Cajete tephra (late Pleistocene)
Qpu	Sandy piedmont alluvium, undivided (middle Pleistocene)
Qalm	Alluvium of La Majada Mesa (middle Pleistocene)
Qog	Older gravelly alluvium (early Pleistocene)
Qcc	Basaltic andesite of Cochiti Cone (early Pleistocene)
	Bandelier Tuff (early Pleistocene)
Qbt	Tshirege Member
Qbo	Otowi Member
Qact	Older alluvium and Cerro Toledo Rhyolite, undivided (early Pleistocene)
Qda	Dacite of Arroyo Montoso (early Pleistocene)
QTba	Basaltic alluvium (middle Pleistocene to Pliocene(?))
QTt	Tuerto Gravel and Ancha Formation, undivided (middle Pleistocene to Pliocene)
QTs	Eastern piedmont facies of uppermost Santa Fe Group (middle Pleistocene to late Pliocene(?))
QTc	Cochiti Formation (early Pleistocene to late Miocene)
QTbc	Basalt of Cochiti (early Pleistocene to late Pliocene)
	Sierra Ladrones Formation
QTsa	Axial river gravel facies (early Pleistocene to late Miocene)
QTsp	Eastern piedmont facies (early Pleistocene to late Miocene)
Tsll	Lacustrine limestone, mudstone, and minor sandstone (Pliocene)
Tsls	Axial river sand (Pliocene)
Tslm	Lacustrine clay, silt, and sand (Pliocene)
Tglp	Gravel of Lookout Park (late Pliocene)
Tbd	Basaltic dikes (Pliocene(?) to Oligocene(?))
Ta	Late andesite of Caja del Rio (Pliocene)
	Late basalt of Arroyo Calabasas
Tby	Upper lava flows (Pliocene)
Tbx	Lower lava flows (Pliocene)
Tac	Andesite of Cerro Rito (Pliocene)
Tth	Andesite of Twin Hills (Pliocene)
Tcmu	Late andesite of Cerro Micho (Pliocene)
Tbz	Basalt of Hill 7071 (Pliocene)
Tcp	Andesite of Cerro Potrillo (Pliocene)
To	Andesite of Ortiz Mountain (Pliocene)
Tbr	Basalt of Caja del Rio (Pliocene)
Ttd	Basaltic andesite of Thirty-One Draw (Pliocene)
Tam	Andesite of Arroyo Montoso (Pliocene)
Tae	Andesite of Arroyo Eighteen (Pliocene)
Tcm	Basaltic andesite of Cerro Micho (Pliocene)
Tto	Basalt of Thirty-One Draw (Pliocene)
Tba	Basalt of Canada Ancha (Pliocene)
Tbm	Basaltic hydromagmatic deposits (Pliocene)
Tb	Basalt of White Rock Canyon (Pliocene)
Tbt	Basalt of Tetilla Hole (Pliocene)
Tbpc	Basaltic andesite of Petroglyph Canyon (Pliocene)
	Olivine basalt of Santa Ana Mesa (Pliocene)
Tbk_3	Flow 3
Tbk_2	Flow 2
Tbk_1	Flow 1
Tah	Andesite of Hill 6385 (Pliocene)
Tdt	Dacite of Tetilla Peak (Pliocene)
Tat	Andesite of Tetilla Peak (Pliocene)
Tcc	Andesite of Cerro Colorado (Pliocene)
Tm	Basaltic andesite of Cerro Montoso (Pliocene)
Tbf	Late basalt of Tetilla Arroyo (Pliocene)
Tbe	Basalt of Tetilla Arroyo (Pliocene)
Tbj	Basalt of Mesita de Juana (Pliocene)
Tbb	Basalt of La Bajada (Pliocene)
Tbs	Basalt of Tsinat Mesa (Pliocene)
Tbpb	Basalt of Pena Blanca (Pliocene)
Trb	Bearhead Rhyolite (Miocene)
Tbp	Peralta Tuff Member
	Paliza Canyon Formation (Miocene)
Tkvs	Volcaniclastic sediments
Tkpa	Porphyritic andesite
Tkba	Basaltic andesite
Tkca	Clotted andesite
Tkbd	Biotite dacite
Tkhd	Hornblende dacite
Tkoa	Olivine andesite
Tka	Andesite
Tkha	Hornblende andesite
	Canovas Canyon Formation (Miocene)
Tkrc	Rhyolite
Tkct	Tuffs
	Santa Fe Group (Miocene and Oligocene)
Tsf	Middle part
Tsfb	Basalt lava flows
Tab	Abiquiu Formation(?) (Miocene and Oligocene(?))
Tc	Cieneguilla Basanite (Oligocene)
Te	Espinaso Formation (Oligocene and Eocene)
Tmi / Tmi	Monzonite and monzonite porphyry intrusive rocks (Oligocene and Eocene)
Tmh	Hornblende monzonite porphyry (Oligocene and Eocene)
Tg	Galisteo Formation (Eocene)
	Mancos Shale (Late Cretaceous)
Kmn	Niobrara Member
Kmj	Juana Lopez, Blue Hill, and Fairport Members, undivided
Kmb	Bridge Creek Limestone and Graneros Members, undivided
	Dakota Sandstone (Late Cretaceous)
Kdc	Cubero Tongue
Kdo	Oak Canyon Member
Kmd	Mancos Shale and Dakota Sandstone, undivided (Late Cretaceous)
	Morrison Formation (Late Jurassic)
Jmj	Jackpile Sandstone Member
Jmb	Brushy Basin Member
Jmw	Westwater Canyon Member
Jwb	Beclabito Member of Wanakah Formation (Middle Jurassic)
Jt	Todilto Formation (Middle Jurassic)
Je	Entrada Sandstone (Middle Jurassic)
TRc	Chinle Formation (Late Triassic)

Contact

Contact derived from aeromagnetic data

Lava flow boundary

Fault—Bar and ball on downthrown side. Dotted where concealed; queried where uncertain

Fault inferred from aeromagnetic survey—Bar and ball on downthrown side. Dashed where approximately located

Anticline

Syncline—Dotted where concealed

Basaltic dike (Quaternary to Oligocene)

Cinder deposit (Pliocene)—Formed during same eruptive event as underlying lava flow

Quarry

Volcanic vent crater

Magnetotelluric or audiomagnetotelluric station—Showing number
- MT-8 ▼ **Magnetotelluric station**
- AMT-1 ▲ **Audiomagnetotelluric station**

25 **Well**—Number refers to entry in list

Sample locality
- 2.34 ⊙ **Geochronologic age determination**—Showing age, in Ma
- **Paleomagnetic polarity determination**—Showing sample number and polarity
  - 9MRG-6 ■ **Normal**
  - 2MRG-12 □ **Reversed**

Well No.	*Name*
1.	Santa Cruz Springs 1
2.	Santa Cruz Springs 2
3.	Cochiti 1 (C1)
4.	Cochiti 2 (C2)
5.	Cochiti Lake 1
6.	Cochiti Lake 2
7.	Corps of Engineers
8.	Corps of Engineers Tetilla
9.	Cochiti Elementary
10.	Landfill well CEPO 1
11.	Sliding well CEPO 2
12.	Peralta well CEPO 3
13.	Cochiti 2B Windmill
14.	3-T Windmill
15.	4-T Windmill
16.	170-T Windmill
17.	180-T WIndmill
18.	Blow-T Windmill
19.	Cochiti-T Windmill
20.	Solar-T Windmill
21.	1200-Foot
22.	800-Foot
23.	Dome Road
24.	LB09-2
25.	LB10-3
26.	LB10-4
27.	LB11-1
28.	LB11-5
29.	LB11-6
30.	LB12-7
31.	Santo Domingo 4B Windmill

INDEX TO SOURCES OF GEOLOGIC MAPPING
Outline of mapped area shown in red; names given are for U.S. Geological Survey 7½-minute topographic quadrangles, corresponding to quadrangle names in the list of sources to the right.

Cañada[1]
Unpublished geologic mapping by G.A. Smith and A.J. Kuhle, 1996–97.

Cochiti Dam[1]
Unpublished geologic mapping by D.P. Dethier, Williams College, 1996–99, R.A. Thompson, M.R. Hudson, S.A. Minor, and G.A. Smith 2002–2006.

Montoso Peak
Unpublished geologic mapping by R.A. Thompson, R.R. Shroba, and M.R. Hudson, U.S. Geological Survey, 1996–2004.

Santo Domingo Pueblo and Santo Domingo Pueblo SW
Smith, G.A., and Kuhle, A.J., 1998, Geology of Santo Domingo Pueblo and Santo Domingo Pueblo SW quadrangles, Sandoval County, New Mexico: New Mexico Bureau of Mines and Mineral Resources Open-File Geologic Map OF–GM 15 and 26 [combined], scale 1:24,000.

Tetilla Peak
Sawyer, D.A., Shroba, R.R., Minor, S.A., and Thompson, R.A., 2002, Geologic map of the Tetilla Peak quadrangle, Santa Fe and Sandoval Counties, New Mexico: U.S. Geological Survey Miscellaneous Field Studies Map MF–2352, scale 1:24,000.

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[1] Area west of the Pajarito fault zone on Cañada and Cochiti Dam quadrangles modified from Goff, Fraser, Gardner, J.N., and Valentine, G.A., 1990, Geology of the St. Peter's Dome area, Jemez Mountains, New Mexico: New Mexico Bureau of Mines and Mineral Resources Geologic Map GM–69, scale 1:24,000.

GEOLOGIC MAP OF THE COCHITI PUEBLO AREA, NEW MEXICO

By

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