

CORRELATION OF UNITS

Qal	Qc	Holocene and Pleistocene	QUATERNARY
Ols	QTtp		
Tsj	Tn	Pleistocene and Pliocene (?)	TERTIARY
Tn			
Toa	Kkf	Paleocene	CRETACEOUS
Kl			
Kmv	Kd	Upper and Lower (?) Cretaceous	CRETACEOUS
Km			
Jm	Jt	Upper Jurassic	JURASSIC
Je			
Tu	Tp	Upper Triassic	TRIASSIC
Pc			
		base not exposed	

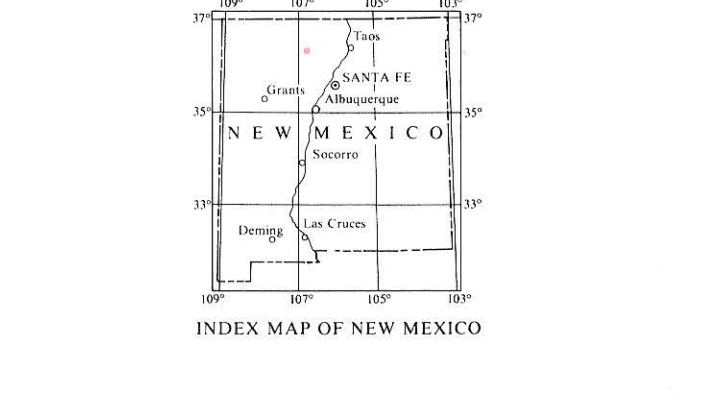
DESCRIPTION OF UNITS

Qal	Alluvium—Clay, silt, and sand in valleys; also includes minor colluvium; maximum thickness 40 ft
Qc	Colluvium—Unsorted angular fragments, mostly from Paleo Sandstone Lentil; maximum thickness 30 ft
Ols	Landslide deposits—Angular fragments composed primarily of sandstone from the Morrison Formation or Paleo Sandstone Lentil and gypsum from the Todillo Formation; maximum thickness 40 ft
QTtp	Terrace and pediment deposits—Pebbles and cobbles of quartzite, granitic rocks, and chert; maximum thickness 5 ft
Tsj	San Jose Formation—Basal, poorly sorted, locally conglomeratic sandstone with overlying lenticular, gray, yellowish, and greenish mudstone with interbedded sandstone and conglomeratic sandstone; thickness approximately 1,300 ft
Tn	Nacimiento Formation—Olive-green and gray, carbonaceous shale with subordinate tan, poorly sorted sandstone, thickness from 550 to approximately 1,300 ft
Toa	Ojo Alamo Sandstone—Tan, buff, and brown, medium to very coarse grained, locally conglomeratic, crossbedded sandstone; locally contains silicified logs; thickness approximately 100 ft
Kkf	Fruitland Formation and Kirtland Shale unbedded—Black, gray, and olive-drab shale with interbedded gray to buff, poorly sorted sandstone; abundant silicified wood fragments; thickness 100-350 ft
Kl	Lewis Shale—Gray, buff, and brown, medium to very coarse grained, locally conglomeratic, crossbedded sandstone; locally contains silicified logs; thickness 1,500-2,000 ft
Kmv	Mesoverde Group—Consists of three units, in ascending order: tan, fine-grained sandstone with salt and pepper texture (Point Loutro Sandstone); gray and black shale with interbedded carbonaceous shale, coal, sandstone, and sandstone (Mesa Formation); and tan, medium-grained sandstone (Chil House Sandstone); thickness 340-600 ft
Km	Mancos Shale—Dark-gray and black shale with thin beds of finely crystalline limestone and calcareous sandstone, subordinate septarian and silty limestone concretions; thickness approximately 2,000 ft
Kd	Dakota Formation—Consists of three units, in ascending order: tan to brown, well-sorted, fine-grained quartzite sandstone; gray and black shale with interbedded carbonaceous shale, coal, and siltstone; and tan, fine-grained, well-sorted quartzite sandstone; thickness 140 ft
Jm	Morrison Formation—Three informal members, in ascending order: brown-maroon shale, mudstone, and very fine grained sandstone with light-gray sandstone and red, silicified conglomerate, brick-red and pale-green mudstone and gray to yellow-buff, arkosic sandstone; and white, lacustrine, conglomeratic sandstone; thickness 670 ft
Jt	Todillo Formation—Basal part is laminated, gray-brown, field limestone up to 10 ft thick; upper part is white, massive gypsum up to 90 ft thick; total thickness up to 100 ft
Je	Entrada Sandstone—Fine to medium-grained, well-sorted, white, yellow, and tan-orange massive sandstone; thickness 180-250 ft
Tu	Upper shale member of Chinle Formation—Red-brown, maroon, purple, and minor green-gray mudstone with subordinate reddish-brown and gray, micaceous sandstone and siltstone; thickness about 415-600 ft
Tip	Paleo Sandstone Lentil of Chinle Formation—White to yellow-brown and olive-gray, fine to coarse-grained, micaceous sandstone with subordinate dark-gray shale; thickness 60-220(?) ft
Pc	Cutter Formation—Reddish-brown mudstone and lenticular, poorly sorted sandstone and arkose with minor conglomeratic lenses; thickness 2,540(?) ft with upper 700 ft exposed

MAP SYMBOLS

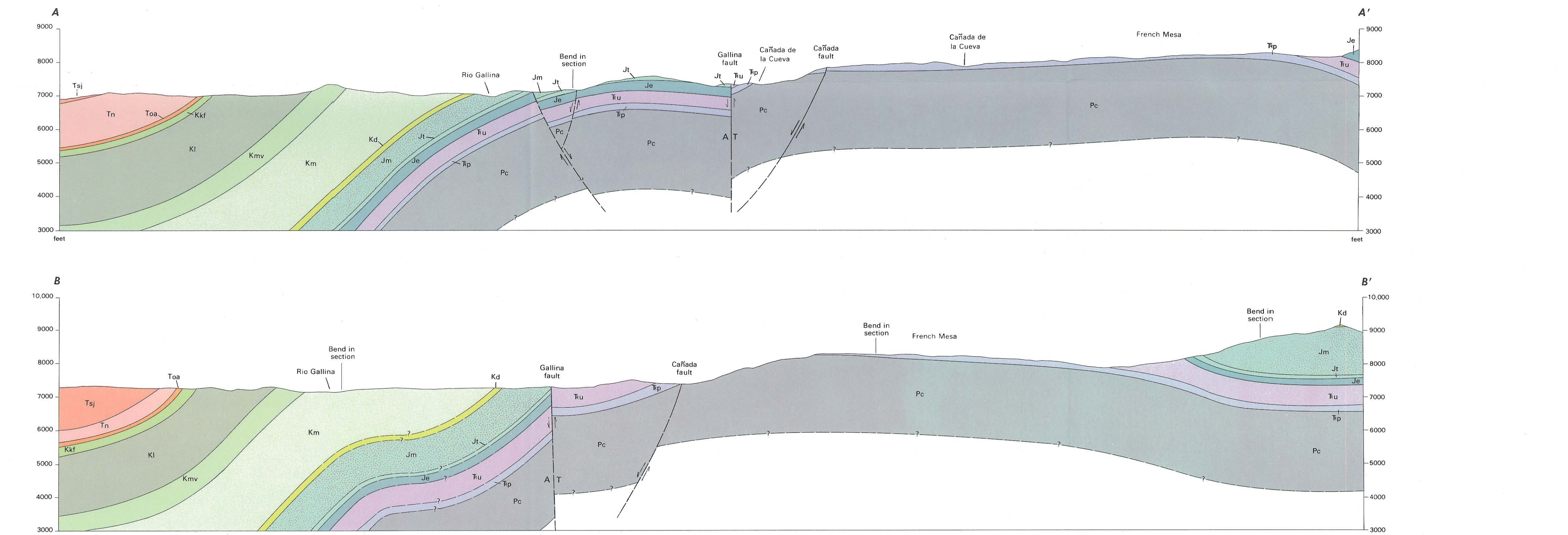
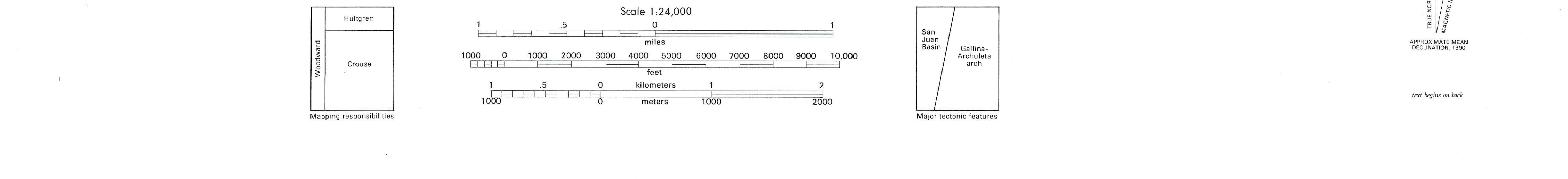
(additional symbols on envelope)

- High-angle fault—ball and bar on downthrown side, arrows show relative strike separation in cross sections, A = away and T = toward
- Axial trace of anticline showing plunge—dashed where approximately located, dotted where concealed
- Axial trace of syncline showing plunge—dashed where approximately located
- Axial trace of anticlinal bend
- Oil well
- Well with show of oil
- Dry hole



Base from U.S. Geological Survey Geology by D. L. Crouse, M. C. Hultgren, and L. A. Woodward, 1984-85

Geologic color separations and layout by J. E. Thomas Edited by J. C. Love



Geology of French Mesa quadrangle, Rio Arriba County, New Mexico

by David L. Crouse, Michael C. Hultgren, and Lee A. Woodward, 1992
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