NMBMMR Open-file Report 401

Reconnaissance geologic map of Kaylor Mountain 15-minute quadrangle, Doña Ana and Sierra Counties, New Mexico

by
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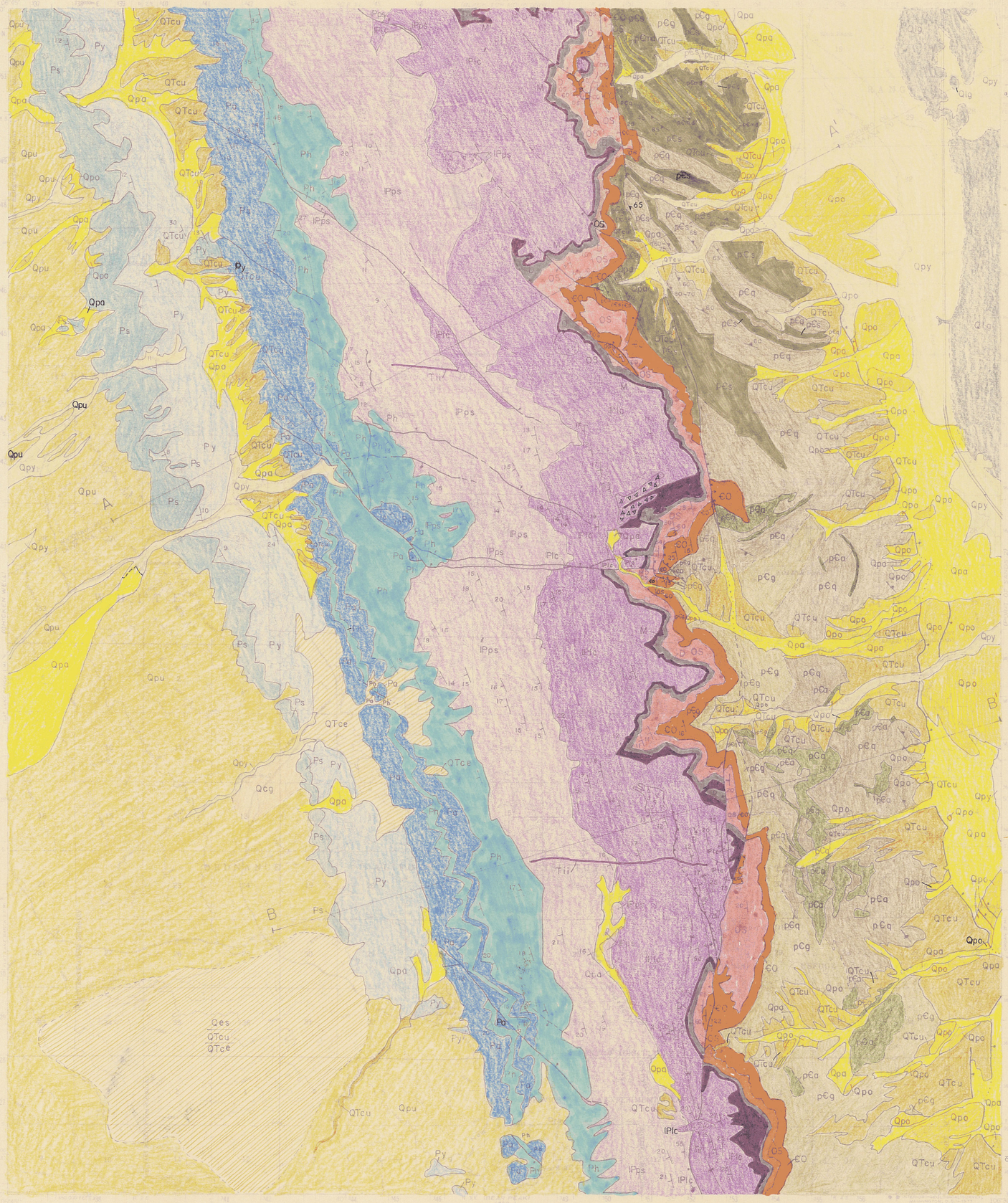
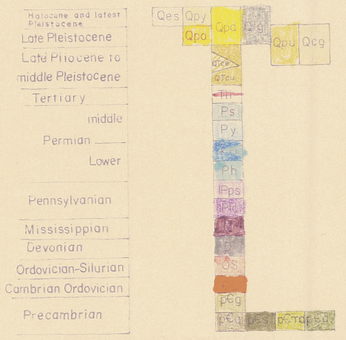
1994

NMBM OFR#401

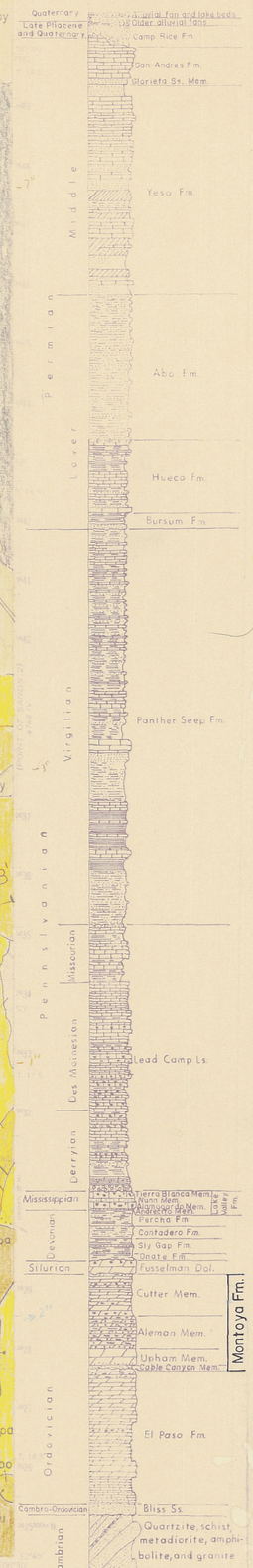
Map 1



Correlation of Rock Units



COMPOSITE STRATIGRAPHIC SECTION, HEMBRILLO CANYON AREA (from Kottlowski and others, 1956)



Description of Rock Units

Younger Piedmont-Slope Deposits—Unconsolidated sand, gravel, and loamy sediments of drainageways that cross and are inset below or bury older piedmont slopes, and of fans constructed on distal piedmont slopes at lower end of such drainageways; up to 15 ft thick — Qpy

Gypsiferous Lake Deposits in the Tularosa Basin—Includes deposits of large ancestral Lake Otero with highest shoreline near 3,950 ft; mostly gypsite, gypsiferous red and green clay, and gypsiferous silt, locally covered by thin, loamy to silty, eolian deposits of alluvium; at least 25 ft thick

Eolian Quartzose Sand—Dunes and irregular hummocks of quartz sand, especially extensive on western piedmont slopes of San Andres Mountains; the sand is derived largely from Camp Rice Formation; up to 10 ft thick — Qes

Older Piedmont-Slope Deposits—Fan and terrace deposits and erosion-surface veneers on piedmont slopes graded to closed-basin floors; mostly weakly consolidated gravel and sandy gravel, grading downslope to gravelly loam, with thin horizons (surficial and buried) of soil-carbonate and clay accumulation; gravelly carbonate horizons are commonly indurated and form thin pedogenic calcretes; at least 2 generations of fans are present at most places along the San Andres Mountains front; up to 50 ft thick — Qpo

Undifferentiated Qpy and Qpo — Qpa

Undifferentiated Qcp and Qpo — Qpu

Camp Rice Formation, Undivided—Piedmont slope alluvium generally consisting of older boulder conglomerate overlain by weakly to moderately cemented gravel; surficial layers, up to 10 ft thick, contain prominent horizons of soil carbonate accumulations forming calcrete zones up to 5 ft thick; unit is generally less than 500 ft thick — QTcu

Camp Rice Formation, Gypsum—Yellow to gray gypsite capped by 1-3 ft of gray pedogenic calcrete; unit is primarily of eolian origin, derived from basin-floor areas in the Jornada Draw—Point of Rocks region; the gypsum may be extensive along west edge of range but is only exposed in vicinity of Fleck Draw — Qcg

Camp Rice Formation, Eolian Sand—Mostly light-gray, friable, quartz sand and silt, moderately to weakly cemented; contains thin tongues of gravelly piedmont alluvium; probably intertongues with Qtcu; occurs South of Fleck Draw along the western margin of the San Andres Mountains; at least 100 ft thick — QTce

Intermediate-Composition Plutonic Rocks (Oligocene and Eocene)—Andesitic to basaltic andesite dikes — Tii

San Andres Formation—Gray to dark-gray, medium-bedded to massive, fetid limestone with a basal (Glorieta) sandstone; limestones are fossiliferous and basal sandstone is yellowish and cross-laminated; 200 or more ft thick in Hembrillo Canyon area (top eroded), but more than 600 ft thick north of map area; Glorieta Sandstone is 30-40 ft thick (Kottlowski and others, 1956) — Ps

Yeso Formation—Light-brown to light-red sandstone, light-gray to white gypsum, and sandy, medium- to dark-gray, fetid limestone; limestones are moderately to sparsely fossiliferous; approximately 900 ft thick near Hembrillo Canyon (Kottlowski and others, 1956). — Py

Abo Formation—Reddish-brown siltstone, fine sandstone, and arkosic sandstone; with red, green, and gray shale; approximately 615 thick at Hembrillo Canyon (Kottlowski and others, 1956), thinning southward to approximately 425 ft thick in southern San Andres Mountains (Bachman and Myers, 1969; Seager, 1981); interfingers with upper part of Hueco Formation. — Pa

Hueco Formation—Algal limestone, gastropod-echinoid-brachiopod limestone, fusulinid limestone, chert-pebble conglomerate, sandy limestone, gray shale, shaly limestone, siltstone, massive cherty limestone; 325 ft thick at Hembrillo Canyon (Kottlowski and others, 1956). — Ph

Panther Seep Formation—Brown to gray shale, sandstone, siltstone, gypsum and fine-grained, laminated limestone, mostly of Late Pennsylvanian age, deposited in the Orogrande Basin; grades downward into Middle Pennsylvanian beds and upward into Hueco Formation; approximately 1,800 ft thick near Hembrillo Canyon, (Kottlowski and others, 1956). — IPps

Lead Camp Limestone—Massive, thick- to medium-bedded, fossiliferous, cherty, gray limestone and dolomite cyclically interbedded with shale; sandstone, conglomerate, and quartzite form local pods in lower third of the unit; mostly Early to Middle Pennsylvanian in age; formation becomes very dolomitic, shaly, and gypsiferous at top where it weathers orange, yellow, or olive and grades into Panther Seep Formation; 1,200 ft thick in central San Andres Mountains near Hembrillo Canyon (Kottlowski and others, 1956) — IPlc

Lake Valley Limestone and Percha Shale—In descending order map includes: *Lake Valley Limestone (Mississippian)*—Crinoidal limestone, cherty limestone, sandy limestone, and soft, platy micrite; locally very fossiliferous; 82 ft thick in Hembrillo Canyon area (Kottlowski and others, 1956), *Percha Shale (Devonian)* — Black, gray, and purplish-gray, fissile shale with yellow-weathering, fine-grained, medium-bedded limestone locally at base, and thin, nodular limestone and siltstone interbedded throughout; Percha map unit includes Onate, Sly Gap, Contadero, and Percha units of Kottlowski and others (1956); about 140 ft thick (Kottlowski and others, 1956)

Montoya Group and Fusselman Dolomite—*Fusselman Dolmite (Silurian)*—Massive, dark-gray, cherty dolomite; unit thins regularly northward because of post-Fusselman erosion; Fusselman is 61 ft thick at Hembrillo Canyon (Kottlowski and others, 1956). *Montoya Group (Ordovician)*—Basal, tan, coarse-grained *Cable Canyon Sandstone* overlain by massive, dark gray *Upham Dolomite*, followed upward by cherty, light- and dark-gray *Aleman Dolomite;* Montoya is capped by light gray, fine-grained, thin- to medium-bedded *Cutter Dolomite;* Montoya is approximately 340-400 ft thick in Hembrillo Canyon (Kottlowski and others, 1956) — OS

Bliss Sandstone and El Paso Group—*El Paso Group (Ordovician)*—Thin-bedded, siliceous, sandy, orange to brown-weathering limestone in lower third, thick- to medium-bedded gray dolomite or limestone in upper two-thirds; unit thins northward because of pre-Montoya erosion; El Paso Group is 540 ft thick near Hembrillo Canyon (Kottlowski and others, 1956); *Bliss Sandstone (Cambrian-Ordovician)*—Brown, gray, or black hematitic sandstone, shale, siltstone, and quartzite; approximately 45 ft thick at Hembrillo Canyon (Kottlowski and others, 1956) — €O

Precambrian Rocks (Granite)—Pink to brown, coarse-grained granite — pCg

Precambrian Rocks (Quartzite)—Variable colored, fine- to medium-grained quartzite, feldspantic quartzite, and arkose interbedded with lenses and beds of phyllite and mica schist — pCq

Precambrian Rocks (Schist and Phyllite)—Medium- to fine-grained, quartz-mica schist and phyllite, and interbeds of quartzite, talc, and minor bodies of amphibolite — pCs

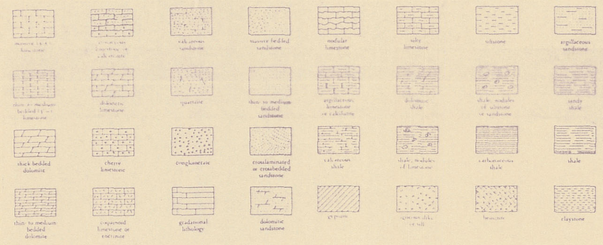
Precambrian Rocks (Amphibolite)—Black to greenish-black dikes, sills, and irregular bodies of hornblende-plagioclase amphibolite; includes gneissic bodies locally, mixed with amphibolite — pCd

Precambrian Rocks(Metadiabase)—Black to greenish-black metadiabase sills and dikes near Grandview Canyon

Symbols

- Normal fault, dashed where inferred, dotted where concealed
- Reverse fault, dashed where inferred, dotted where concealed
- Synclinal hinge
- Anticlinal hinge
- Monoclinal hinge
- 15 Strike and dip of bedding
- 75 Strike and dip of overturned bedding
- Strike of vertical bedding
- Horizontal beds
- 60 Strike and dip of metamorphic foliation
- Strike of vertical metamorphic foliation
- Landslide debris

Symbols in Stratigraphic Column



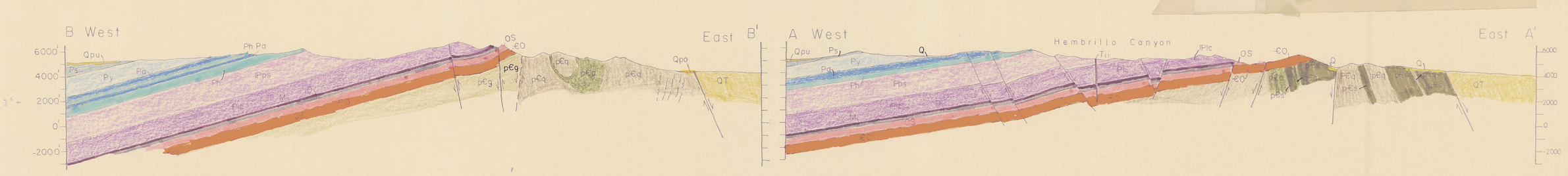
References

Bachman, G. O. and Myers, D. A., 1969, Geology of the Bear Peak area, Dona Ana County, New Mexico: U.S. Geological Survey, Bulletin 1271-C, 46 pp.

Condie, K. C., and Budding, A. J., 1979, Geology and geochemistry of Precambrian rocks, central and south-central New Mexico: New Mexico Bureau of Mines and Mineral Resources, Memoir 35, 60 pp.

Kottlowski, F. E., Flower, R. H., Thompson, M. L., and Foster R. W., 1956, Stratigraphic studies of the San Andres Mountains, New Mexico: New Mexico Bureau of Mines and Mineral resources, Memoir 1, 132 pp.

1981, Geology of Organ Mountains and southern San Andres Mountains, New Mexico: New Mexico Bureau of Mines and Mineral Resources, Mem. 36, 97 p.



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by William R. Seager

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