

Geologic Map of the Loco Canyon Quadrangle, Chaves County, New Mexico.

By

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Open-file Digital Geologic Map OF-GM 174

Scale 1:24,000

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EXPLANATION OF MAP UNITS

Quaternary and Tertiary Surficial Deposits

QH_a - Alluvium (Holocene to Historic) - Unlithified gravel of carbonate rocks and poorly to moderately sorted clay, silt, and sand in active stream channels. Generally present in gullies incised into **Q_{vf}**. Only mapped separately in the Rio Felix drainage and Lincoln Canyon; unit is otherwise grouped with **Q_{vf}**. Thickness: 0 to 4 (?) meters.

Q_{vf} - Valley fill (upper Pleistocene to Holocene) - Unlithified valley fill composed of poorly sorted clay, silt, and sand, with angular to subrounded cobbles of local bedrock. Matrix material is light to dark brown, reflecting soil development processes. Grades into minor alluvial fans and abundant, poorly sorted colluvium on hillslopes. Often incised by arroyos floored by sand and cobble to boulder gravel of **QH_a**. Fills sinkholes on flat uplands in the southeast and northeast corners of the quadrangle. Anthropogenic disturbance in the form of irrigated fields is common along the Rio Felix drainage. Thickness: 0 to 12 (?) meters.

Paleozoic Sedimentary Rocks

P_{sr}, P_{sb} - San Andres Formation (middle to upper Permian) – Light to dark gray and bluish gray limestone and dolomite. Limestones and dolomites range from thin to very thick bedded, and are carbonate mudstones, wackestones, and grainstones. Freshly broken surfaces are darker gray than weathered surfaces and often fetid. Silty and sandy beds are common. Subdivision of the San Andres into the lower dominantly thick-bedded Rio Bonito Member (**P_{sr}**) and upper dominantly medium- to thin-bedded Bonney Canyon member (**P_{sb}**, Kelley, 1971) was based on aerial photograph interpretation. The members can be distinguished based on average bed thickness and continuity, and color, with the Bonney Canyon member being darker on average. Color and vegetation patterns give the Bonney Canyon member a distinctly striped appearance. A prominent sequence of ledge-forming, thick, white beds is present near the top of the Rio Bonito member and locally serves as a marker horizon on aerial photographs and in the field. Thickness: Rio Bonito member: 182 meters, based on the State “N” #001 oil test well; Bonney Canyon member: top not exposed in the quadrangle, at least 105 meters.

Py – Yeso Formation (middle Permian) - Yellow to tan siltstone and fine sandstone, red to pink muddy siltstone and fine sandstone, gray to tan silty limestone and dolomite (cross-section only, unit descriptions from exposures to the southeast in the Sacramento Mountains). Thickness: Base not exposed; approximately 510 meters in the State “N” #001 oil test well.

PpCu - Permian to Proterozoic rocks - Paleozoic sedimentary rocks and Proterozoic igneous and metamorphic rocks, undivided (cross section only). Thickness of Sub-Yeso Paleozoic rocks approximately 645 meters in the State “N” #001 oil test well.

Correlation chart
Loco Canyon quadrangle

