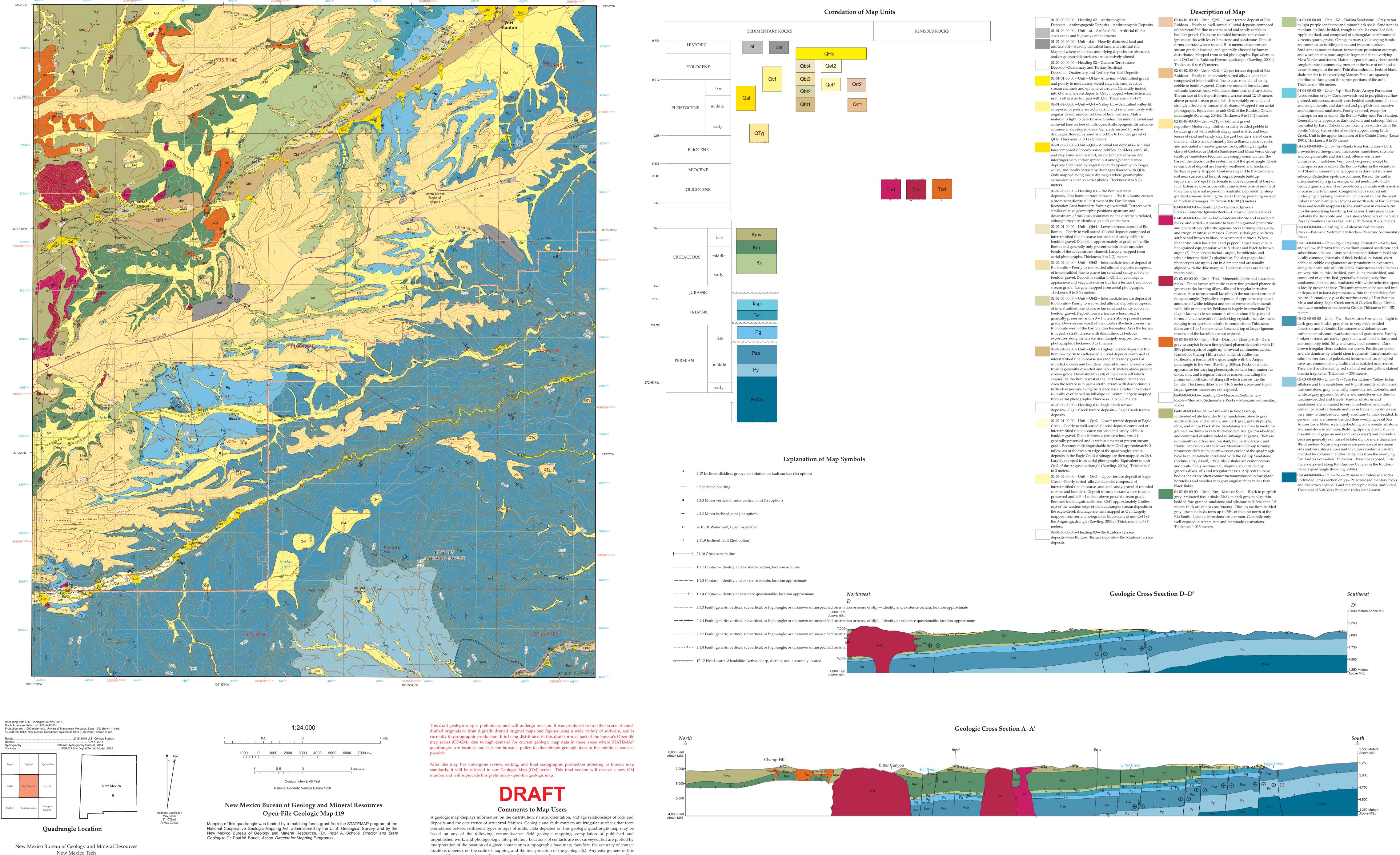
NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES A DIVISION OF NEW MEXICO INSTITUTE OF MINING AND TECHNOLOGY NMBGMR Open-File Geologic Map 119



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conglomerate is commonly present at the base of unit and as lenses throughout the unit. Thin discontinuous beds of black shale similar to the overlying Mancos Shale are sparsely distributed throughout the upper portions of the unit. 04-04-00-00-00—Unit—^sp—San Pedro Arroyo Formation and bioturbated mudstone. Poorly exposed, except for

(cross section only)—Dark brownish-red to purplish-red finegrained, micaceous, usually crossbedded sandstone, siltstone, and conglomerate, and dark red and purplish-red, massive outcrops on north side of Rio Bonito Valley near Fort Stanton. Generally only appears as dark red soils and subcrop. Unit is truncated by basal Dakota unconformity on south side of Rio Bonito Valley; two erosional outliers appear along Little Creek. Unit is the upper formation of the Chinle Group (Lucas 04-05-00-00-00—Unit—^sr—Santa Rosa Formation—Dark

bioturbated, mudstone. Very poorly exposed, except for outcrops on north side of Rio Bonito Valley in the vicinity of Fort Stanton. Generally only appears as dark red soils and subcrop. Reduction spots are common. Base of the unit is often marked by a gray, orange, or red medium-to thickbedded quartzite and chert pebble conglomerate with a matrix of coarse chert-rich sand. Conglomerate is scoured into underlying Grayburg Formation. Unit is cut out by the basal Dakota unconformity in canyons on north side of Fort Stanton Mesa and locally reappears to the southwest in channels cut into the underlying Grayburg Formation. Units present are probably the Tecolotito and Los Esteros Members of the Santa Rosa Formation (Lucas et al., 2001). Thickness: 0 – 30 meters. 05-00-00-00—Heading 02—Paleozoic Sedimentary Rocks—Paleozoic Sedimentary Rocks—Paleozoic Sedimentary

05-01-00-00-Unit—Pg—Grayburg Formation—Gray, tan, and yellowish brown fine- to medium-grained sandstone and subordinate siltstone. Limy sandstone and dolomite beds are locally common. Intervals of thick-bedded, resistant, chert pebble to cobble conglomerate are prominent in exposures along the north side of Little Creek. Sandstones and siltstones are very thin- to thick-bedded, parallel to crossbedded, and composed of quartz. Red, generally massive, very fine sandstone, siltstone and mudstone with white reduction spots is locally present at base. This unit appears to be scoured into or deposited in karst depressions within the underlying San Andres Formation, e.g. at the northeast end of Fort Stanton Mesa and along Eagle Creek north of Gavilan Ridge. Unit is the lower member of the Artesia Group. Thickness: 90 – 152

05-02-00-00-Unit—Psa—San Andres Formation—Light to dark gray and bluish-gray thin- to very thick-bedded limestone and dolomite. Limestones and dolomites are carbonate mudstones, wackestones, and grainstones. Freshly broken surfaces are darker gray than weathered surfaces and are commonly fetid. Silty and sandy beds common. Dark brown irregular chert nodules are sparse. Fossils are sparse and are dominantly crinoid stem fragments. Intraformational solution breccias and paleokarst features such as collapsed caves are common along faults and as isolated occurrences. They are characterized by red soil and red and yellow stained breccia fragments. Thickness: ~ 335 meters.

fine sandstone, gray to tan silty limestone and dolomite, and white to gray gypsum. Siltstone and sandstones are thin- to medium-bedded and friable. Muddy siltstones and sandstones are laminated to very thin-bedded and locally contain paleosol carbonate nodules in trains. Limestones are very thin- to thin-bedded, rarely medium- to thick-bedded. In general, they are thinner bedded than overlying basal San Andres beds. Meter scale interbedding of carbonate, siltstone, and sandstone is common. Bedding dips are chaotic due to dissolution of gypsum and (and carbonates?) and individual beds are generally not traceable laterally for more than a few 10s of meters. Natural exposures are poor except in stream cuts and very steep slopes and the upper contact is usually mantled by colluvium and/or landslides from the overlying San Andres Formation. Thickness: Base not exposed; ~ 240 meters exposed along Rio Ruidoso Canyon in the Ruidoso

> 05-04-00-00-Unit—P=u—Permian to Proterozoic rocks, ndivided (cross section only)—Paleozoic sedimentary rocks and Proterozoic igneous and metamorphic rocks, undivided.

T2,500 Meters Above MSL

Geologic Map of the Fort Stanton 7.5-Minute Quadrangle, Lincoln County, New Mexico

801 Leroy Place

Socorro, New Mexico

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May, 2006 Geoffrey Rawling

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Cross sections are constructed based upon the interpretations of the author made from geologic mapping, and available geophysical, and subsurface (drillhole) data. Cross sections should be used as an aid to understanding the general geologic framework of the map area, and not be the sole source of information for use in locating or designing wells, buildings, roads, or other man-made structures.

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