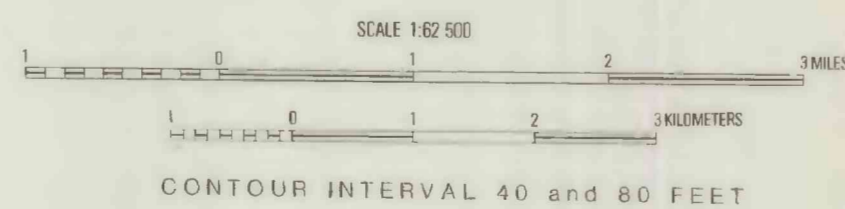


Base from USGS 1:62,500 Palen Mts., 1952,  
Midland, 1952, Sidewinder Well, 1952,  
McCoy Spring, 1952



Geology by W. Yeend

DESCRIPTION OF MAP UNITS

UNCONSOLIDATED DEPOSITS

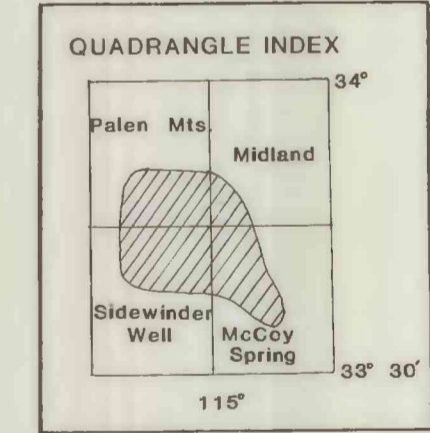
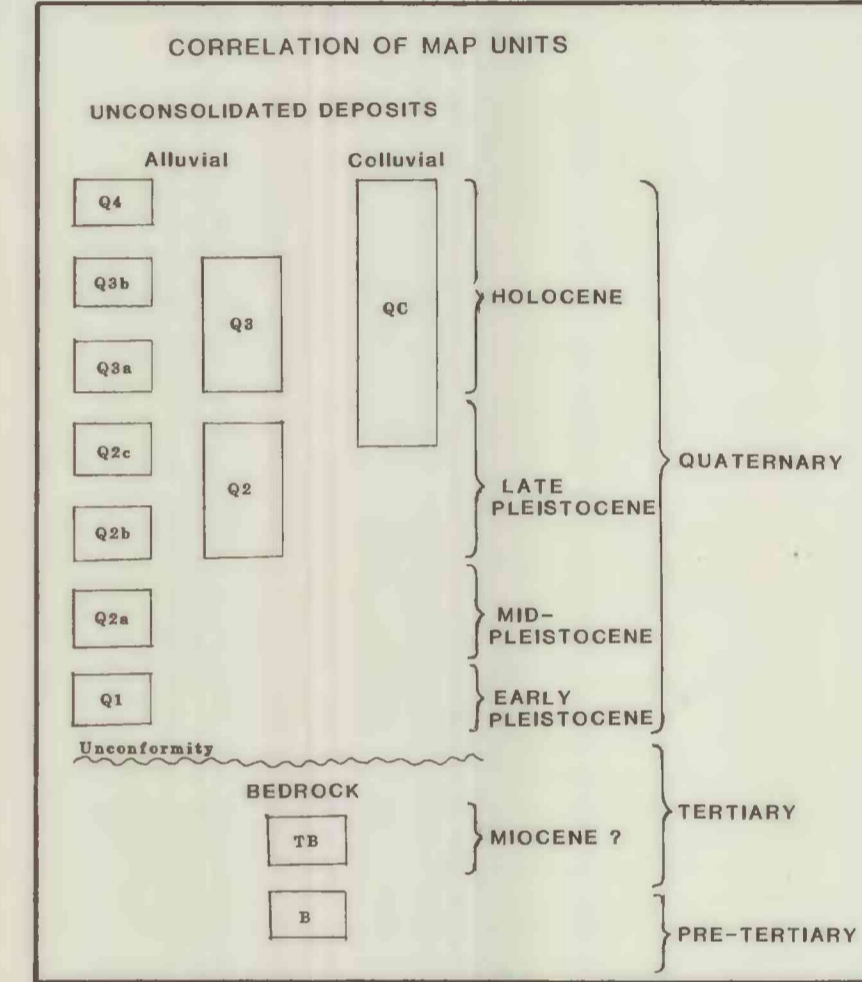
- Q4 ALLUVIAL SAND AND GRAVEL--Lacks pavement varnish, or soil; little vegetation; occupies the floor of the modern drainages
- Q3B ALLUVIAL FAN GRAVEL--Displays well-developed bar-and-swale topography with little, if any, pavement or desert varnish; an incipient vesicular A horizon and a slight color B soil horizon are sometimes present; pebbles lack rubification; Q4 deposits are commonly incised into Q3B gravels 1 to 2 meters. Q3A and B deposits are frequently so intermixed that differentiating them at this map scale was not feasible
- Q3A ALLUVIAL FAN GRAVEL--Bar-and-swale topography with a poorly developed desert pavement, incipient varnish, weak rubification, a vesicular "A" horizon, and a slightly clayey, non-sticky reddish-brown B horizon containing some carbonate; cobbles on the fan surfaces are commonly pitted and weathered and frequently have carbonate coatings on the undersides; boulders on interflues are occasionally well varnished
- Q3 ALLUVIAL FAN GRAVEL--(Q3A and Q3B undifferentiated)
- Q2C ALLUVIAL FAN GRAVEL--Possesses a planar upper surface, well-developed desert pavement, varnish; shows some dissection with steep-sided gullies; a well-developed light gray vesicular A horizon 1 to 2 cm thick is underlain by a brown B horizon 0.5 meters thick (7.5 YR 5/4), clay-rich, sticky when wet, rotten pebbles and mottled carbonate; clasts are rarely larger than 20 cm in diameter, subrounded, some are ventifacted and the ventifact surfaces are varnished; well-developed red-orange rubification
- Q2B ALLUVIAL FAN GRAVEL--A very planar upper surface; similar to Q2C except for exceptionally well-developed pavement, darker varnish and more clay in the yellowish red (5 YR 4/6) to deep reddish brown "B" horizon
- Q2A ALLUVIAL FAN GRAVEL--Very similar in almost all characteristics to the Q2B surface, but stands several meters higher where the 2 surfaces are adjacent; the varnish is not as dark as on the Q2B, and the surface not as planar, which suggests incipient stages of degradation of this older, higher surface
- Q2 ALLUVIAL FAN GRAVEL--(Q2A, Q2B, and Q2C undifferentiated)
- Q1 ALLUVIAL FAN GRAVEL--Extremely dissected such that rarely is any of the original planar surface preserved; gully beds within the fan gravels are up to 15 meters deep; many of the coarse clasts are broken down and rarely are there clasts larger than 20 cm diameter; isolated remnants of this unit are occasionally present at or near the mountain front, often capping spurs; where rarely present the original planar surface displays very dark varnish, excellent pavement with broken, varnished boulders; calcrete 2 meters thick; the gravels are in excess of 13 meters thick near the mountain front and rest on reddish playa(?) deposits of the Bouse(?) Formation (TB)
- QC COLLUVIAL DEPOSITS--Angular to subangular boulders, cobbles, and pebbles in a sandy and silty matrix; non-sorted; commonly occur in steep, narrow valleys and at the head of some of the larger drainages; may include some poorly sorted alluvium

BEDROCK

- TB PLAYA(?) DEPOSITS OF THE BOUSE(?) FORMATION--Weakly consolidated arkostic sandstone and claystone exposed as isolated, small outcrops on the southwest flanks of the Palen Mountains
- B BEDROCK, UNDIFFERENTIATED

SYMBOLS

- Contact, dashed where approximately located
- Boundary of Palen-McCoy Wilderness Study Area



# SURFICIAL GEOLOGIC MAP OF THE PALEN-MCCOY WILDERNESS STUDY AREA, RIVERSIDE COUNTY, CALIFORNIA

by  
Warren Yeend  
1985

This map is preliminary and has not been reviewed for conformity with U.S. Geological Survey editorial standards and stratigraphic nomenclature.